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APARTMENT HOUSE FRONTS IN CHARLOTTENBURG, BERLIN.

Albert Gessner, Architect



## ✓ The Apartment House

Apartment houses of four and five rooms, gas and electric light, hot water in all bedrooms, burglar-proof safes and vacuum cleaner in every apartment—sounds like the most up-to-date real estate man's announcement so familiar to the apartment house dwellers of our largest cities, where the greatest convenience in urban habitations has become indispensable to their financial success. It might further be added that there are but two apartments to the floor and that every room is on the outside and large; also that the house is such as the family most fastidious of appearances would not feel ashamed to claim as its habitation.

The above is not an advertisement of the most up-to-date apartments on Riverside Drive in New York or on Michigan Boulevard in Chicago, but of a modest apartment house recently completed on Fehlerstrasse in the German capital from designs of architect Herr Kaufmann, of that city, of which, through his courtesy, we are enabled to include a plan and views of the exterior among our illustrations. The house, which it appears from the exterior is four stories high on a high basement, stands on a lot of somewhat

more than sixty feet in frontage and about one hundred feet deep, not to mention that it is set back about fifteen feet from the sidewalk by formal planting and has a spacious garden at the back.

Considering merely these bald statements and making no further inquiries, where in America could one find such an abode which does not, in Berlin even, rise to the dignity of an elevator house? By comparison with such accommodations, what right have we to be so conceited of our "best-in-the-world" apartments? The closer we examine into the subject of our advertisement the more absurd appears our claim to superiority. In this Berlin apartment house is found a privacy and convenience together with a refinement which further inspection should compel us to admit would be difficult to equal, even in our exclusive elevator apartment houses in New York, Washington or Chicago. Yet the families which inhabit such houses in Berlin (and there are now many apartments, a few of which we illustrate, equally good and varying only in individual arrangement) are not tenanted by the favored class which is privileged to choose that kind of an



FRONT OF FEHLERSTRASSE 3, BERLIN.  
(See floor plan on opposite page.)

E. Kaufmann, Architect.



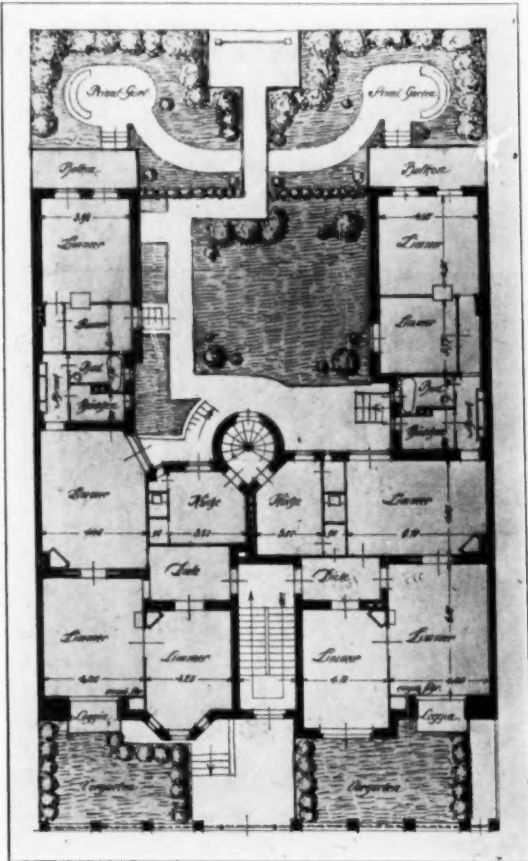
abode to escape the cares of individual housekeeping establishments. The tenants are people of the numerous middle class, like those in our large cities who cannot afford to live in their own houses, but who can afford to spend perhaps from a quarter to a fifth of a modest income for rent. It would mean little to compare the rent of such an

try. There would, in the first place, be raised the objection that the thing is impossible on account of the exorbitantly high price of land. This question our German would answer by saying that his apartment is far from the centre of trade where land is cheap. When one objects that that would not at all do for your excitement-loving city-American, he would wonder why. It is only a short ride on the railroad, which affords excellent service, including a seat for every passenger. But there is hardly any use carrying the argument further. The contemporary Berlin apartment house is rich, however, in suggestion as to how much more we might make of our unlimited opportunities were these opportunities to be seized by more competent agents.

One of the most valuable suggestions that can be drawn from these constructions is our error in persisting to get so many apartments of so many rooms each, out of a given site. The problem is, of course, not solved when this limit has been reached, as we are beginning to discover, particularly in New York. There is little doubt that we have arrived at a solution which involves the lowest first cost for the highest gross rental, but there is much doubt that our solution is admirable and economical in the long run.

In the first place, do not the conditions from which the problem is approached proceed from too short-sighted and often mistaken premises? It is the professional investor who has made it his business and still continues to formulate the rules of the game. His conclusions

are not entirely arbitrary, of course. He could not, and would not if he could, proceed to build for investment, without an intimate knowledge of the temper of his prospective tenants. Such a knowledge is his greatest business asset. But is it not rather to the weaknesses and superficial impressions of tenants that he trusts to gain his selfish ends,

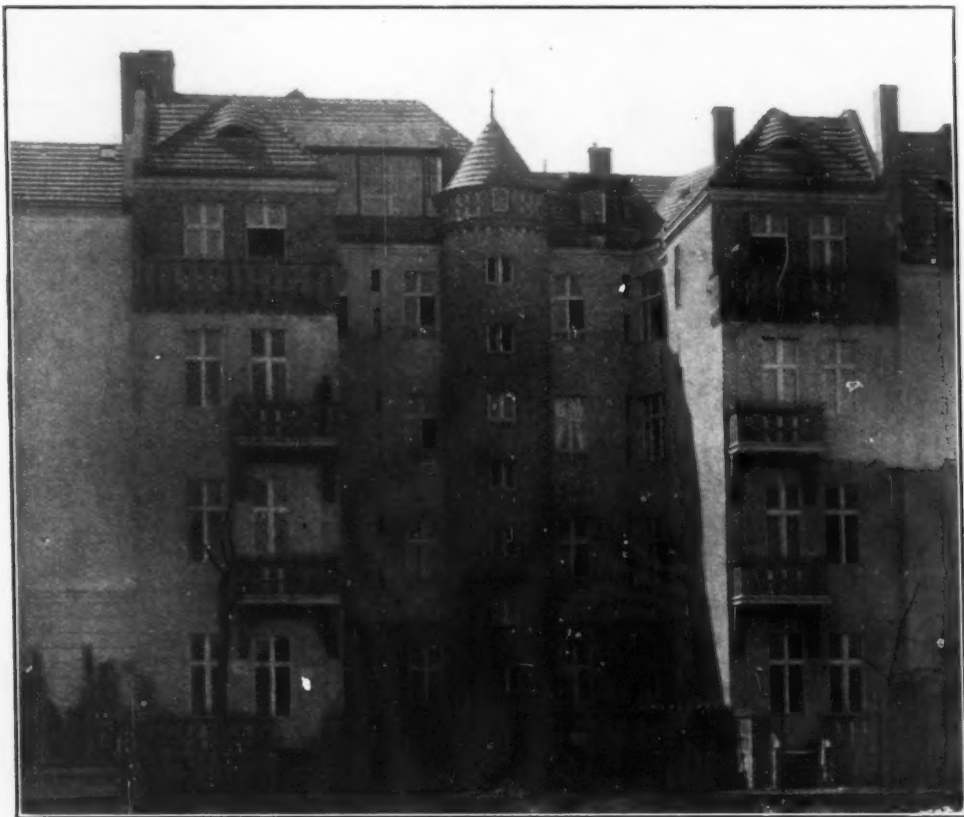


Ground Floor Plan, Fehlerstrasse 3, Berlin.

apartment as is described with current rents in this country. The modes of life and the general condition of society are not commensurable. It could, of course, be maintained that therefore the apartment house which is so admirable in Berlin would very inadequately serve as a guide for a habitation of people in like circumstances in this coun-

by persuading them to overlook the really substantial qualities which they have a right to expect in their apartments? Does he not resort to needless embellishment and often worthless sham to disguise the absence of honest reality? Tenants of apartments are made perfectly familiar with the glowing specification of the "ornamental"

apartment houses in this country is their method of financing. It has been pointed out that the professional real estate operator, especially he who operates in the houses of moderate size and cost, is entirely responsible for the frothy condition of this type of structure. This argument is good in that it states the effects of present conditions, but weak



REAR OF FEHLERSTRASSE 3, BERLIN.

Showing the care which is bestowed in Berlin on the appearance of the backs of apartment houses.

entrance with its electric globes, the marble wainscot in the entrance hall, the handsome decorations on ceiling and wall, but hardly a word is said about the convenience of plan, the substantial construction, the safety of the inmates in the event of fire and the generally appropriate appearance of the premises.

It has repeatedly been argued that the great drawback to more substantial

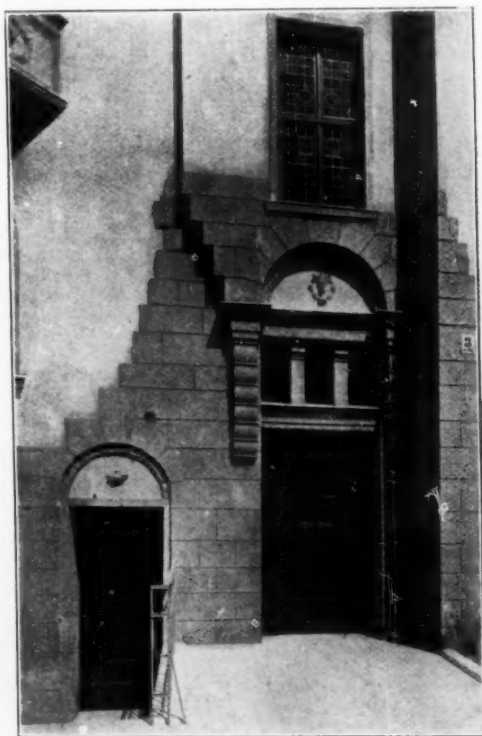
in that it does not reveal the causes thereof. The same argument might, with equal justice, be advanced to explain the generally bad condition of American politics. They are, it is true, in the hands of professional politicians who have brought them to the low estate in which we see them. But admission of the existence of graft in politics does not secure us immunity from the evil ef-

fects of the system, because such admission does not strike at its foundation, any more than an admission of the comparative worthlessness of the bulk of our apartments saves us from more of the same sort of product and its baneful economic effect. The professional exploiter of real estate has made it his business to push his wares to the utmost for precisely the reasons that the professional politician plies his trade. Both of them fill a need, badly, it is true, but profitably to themselves. They continue to control their respective situations because no one is interested enough and bold enough to dislodge them. The voice that should be loudest in protest is silent, that of the public opinion. The silence is not an enforced one, it is one of ignorance. The public certainly is concerned about where it lives. It is in need of enlightenment but knows not that there is a better way or who could be instrumental in finding that better way. The public needs to be instructed to be more interested in the matter of better housing conditions. This deeper interest once aroused will take care of its own development.

The real impediment to stimulating this deeper interest to improve the quality of our apartment house architecture, which forms so large a part of the present building activity of our largest cities, is not the method of financing or the kind of individuals who formulate the requirements which govern their planning and designing. These influences, as already marked, merely explain the results. The obstacle is rather to be sought in the lack of concerted action on the part of the only body who are in a position to reform with authority in such matters—the architectural profession. Would not this subject be worthy of discussion by the American Institute of Architects? The small portion of the enormous total of apartment houses erected annually which it falls to the lot of architects in good standing to design, is only too plainly an admission of the lack of professional initiative in a field of building activity which is

large enough to engage the active and continued attention of a large number of architects who now suffer for lack of business. The statistics of the number and cost of the apartment houses built during 1909 in the Borough of Manhattan alone will give some idea of the extent of this activity. There were 459 of them at a cost of over seventy millions of dollars.

The time is bound to come when the erection of such a quantity of these



Detail of Main and Service Entrances, Fehlerstrasse 3, Berlin.

structures in a second and third rate manner will cease to be profitable enough to attract capital with the facility which at present prevails. Then the methods which now obtain of rushing them up and selling them at as great a profit as possible on their rental returns will no longer be possible. The effect of an already large supply of such struc-

tures fast deteriorating with disproportionate cost of maintenance will have become a warning to further investment in the same line. Meanwhile land values will have continued to rise until they will have reached an altogether artificial limit, when the net return on the investment

buildings of this class, which can be operated and maintained more economically and which are less subject to deterioration, and consequently of the greatest permanence and flexibility of interior arrangement as well as of conformable external appearance.



APARTMENT HOUSE FRONTS IN CHARLOTTENBURG, BERLIN.

Albert Gessner, Architect.

This is a continuation of the street scene shown on the frontispiece and further continued on the opposite page.

will entirely cease to be profitable. When that time comes there is bound to result an economic readjustment which will demand the serious attention of men whose aim it will have to be to produce

This is, of course, looking somewhat into the future, but present conditions point unfailingly towards that consummation. Similar tendencies obtain in some classes of commercial structures,

but nowhere to the extent observable in our thousands of apartment houses. There has, it is only fair to say, been a general improvement in architecture and building construction in this country during the past decade, but that im-

quirements, it is true, for buildings inhabited by more than three families, but these requirements while salutary in their immediate effect have led to no fundamental change of attitude towards the problem of the apartment house. The



GROLMANSTRASSE 3, CHARLOTTENBURG, BERLIN.

Albert Gessner, Architect.

provement has meant for apartments merely certain modifications dictated by the large increase in the number and size of these structures. The law has laid down a more exacting code of re-

building codes have simply provided temporary relief from former barbaric conditions. It is not the law which can fundamentally reform from the present practice of rapidly throwing together





A PICTURESQUE COMPOSITION NOT WITHOUT DIGNITY IN SPITE OF ITS DOMESTICITY.  
Charlottenburg, Berlin.

Albert Gessner, Architect.

a collection of indifferent materials according to the cheapest possible scheme and covering the whole with a layer of tawdry veneer which lasts long enough to make its impression on the prospective victim. Only a sound public opinion, backed up by competent expert interest, can accomplish lasting good.

There are certain classes of buildings on which the services of an architect are more a matter of technical judgment than of artistic talent, requiring his keenest discrimination between various alternatives of economy. Such buildings are, for example, those built to house some commercial interest, a factory, department store or an office building, or those erected primarily for investment, *e. g.*, a hotel or an apartment house.

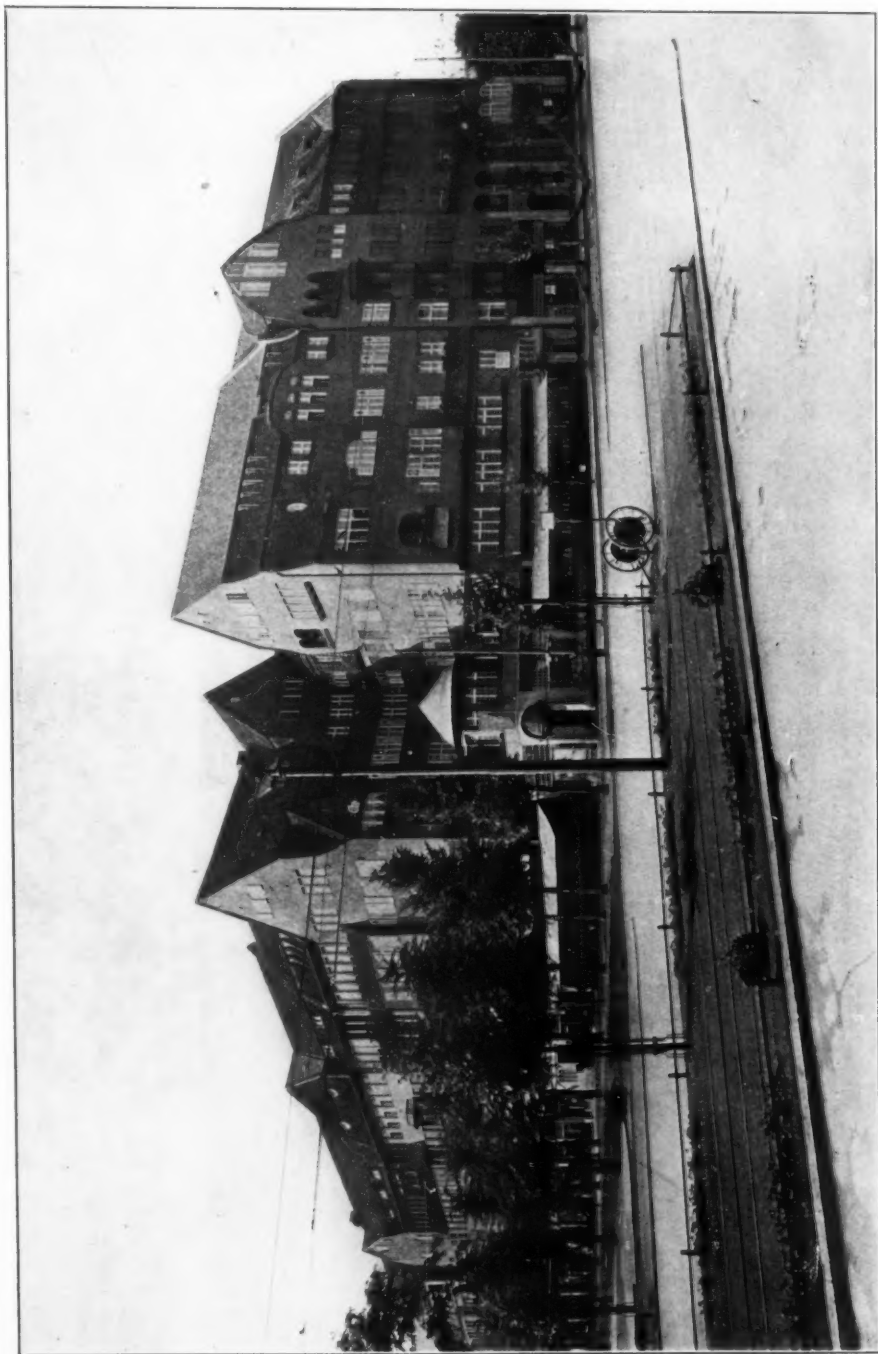
It is a curious fact that of these different classes of buildings, all have received considerable competent architectural attention except the last—the apartment house—of which we are here treating, and especially that kind of apartment house which constitutes the bulk of this kind of building construction. Our illustrations are good examples of the way the Germans are building the sort of structures we have in mind, both as to size and as to cost. The apartment house at the corner of Bismarckstrasse and Grolmanstrasse in Charlottenburg is a good instance of a corner apartment house. Charlottenburg bears about the same relation to the center of Berlin as Harlem does to the center of New York. It is reached in less than a half hour by trolley from Unter den Linden, and in ten or twelve minutes by train. During the past five years this section has grown into a large apartment house district. The view of this house shows that ample as are the apartments nothing has been wasted to make the enterprise a paying investment, the entire basement being occupied as shops, with the exception of the space in the rear, which is given over to the janitor's apartment. The house, being on the corner, every apartment enjoys an unusual degree of privacy. The house is of a much more expensive

kind than that of the Fehlerstrasse, with which these remarks were introduced. An entrance on each street conducts up a short flight of steps to a platform from which the elevator is entered. The public portion of the apartment is arranged around a *Diele* or reception hall leading from the private entrance hall and entirely cut off from the sleeping rooms and service; long, dark halls are avoided, and the servants are entirely isolated, using their own entrance and staircase and landing in the end of the apartment opposite the kitchen. An interior court (*Nebenhof*) about sixteen feet square lights the staircases, reception hall, bath and toilets of each apartment. With this word of explanation of the planning the floor plans will be intelligible.

If the plan of this house seems carefully studied the exterior bespeaks even greater attention. The first impression is of an extremely interesting composition of architectural masses, more informal than we are accustomed to, perhaps, but well considered withal. The roof treatment is always a conspicuous feature of German buildings and apartment houses are not neglected in this respect. The irregular shape and spacing of the window openings add their share to the total effect of picturesqueness, while the almost universal practice in Germany of finishing rough brick walls with stucco or cement, saves from the appearance of riotousness, a species of treatment which is at times very animated. Some of their facades, however, retain all of their free and charming domesticity and combine with it a certain solid dignity; that on page 212 and one by Paul Lewy on page 216 will illustrate what is meant.

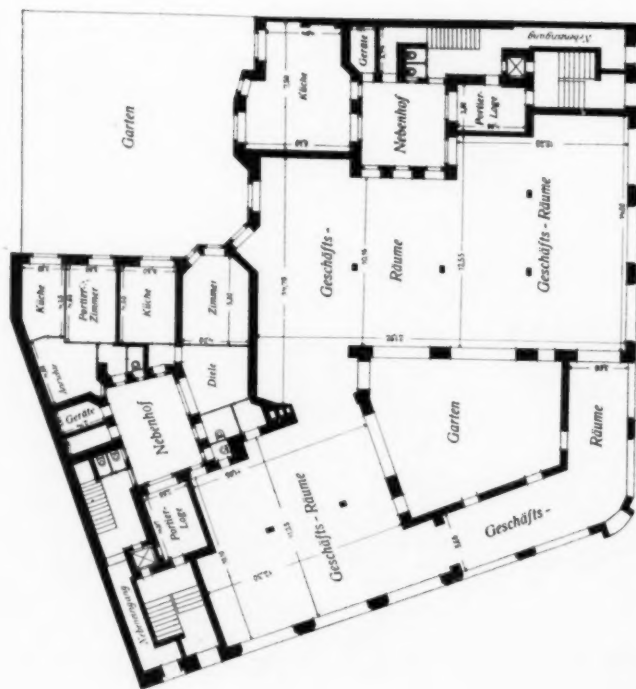
In these German apartment houses there is the fulfillment of a promise which exists equally for this country. The designs bear the earmarks of the trained architect. They are conscientious, thoroughly workmanlike accomplishments, honestly and substantially constructed and have an intrinsic as well as a sociological value. Can we say as much for American apartment houses?

H. W. Frohne.



ELEVATOR APARTMENT HOUSES, ONE OF WHICH IS SHOWN IN PLANS ON OPPOSITE PAGE.

Albert Gessner, Architect.



TYPICAL CORNER APARTMENT HOUSE OF THE MORE EXPENSIVE SORT, WITH ELEVATORS.

Corner Bismarckstrasse and Grolmannstrasse, Charlottenburg, Berlin.

Albert Gessner, Architect.

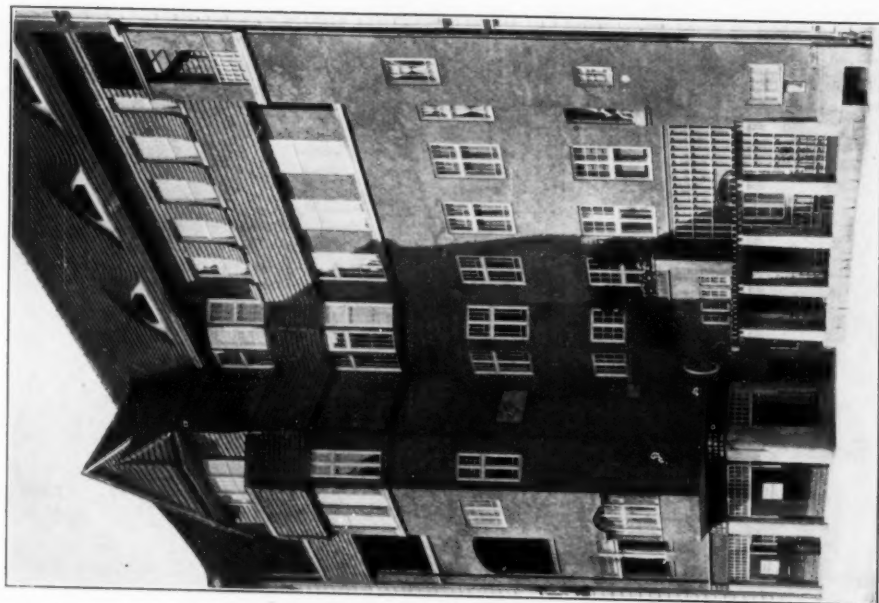


GROLMANSTRASSE FRONTS, CHARLOTTENBURG, SHOWING  
FORMAL PLANTING IN FRONT OF THE HOUSES.  
Albert Gessner, Architect.



APARTMENT HOUSE FRONT, FRIEDENAU, BERLIN.  
Paul Lewy, Architect.





NIEBUHRSTRASSE 2.  
Albert Gessner, Architect.  
Charlottenburg, Berlin.



ARCHITECT'S MODEL OF HOUSE IN NIEBUHRSTRASSE 2.  
Charlottenburg, Berlin.

## Factories and Their Fire Protection

Architects and builders are slowly entering upon a new phase of their accountability. Just as the architect, whose primary impulse is that of the artist, has been compelled, in the interest of his clients largely, to master the technique of the builder, so both the architect and the builder are now being called upon to protect their clients in the matter of the fire hazard. The enormous aggregate of the American fire waste, which contrasts us so unfavorably with European prudence, is beginning to cripple and impoverish us as the natural resources of the country, once believed to be inexhaustible, are ceasing to respond to the demands of our habitual extravagance. The common notion that the insurance companies pay the cost of fires is gradually giving way to an intelligent understanding of the fact that they are merely the collectors and distributors of the fire tax. They must recover from the public the sums they pay out in losses, plus the cost of conducting their business and a reasonable interest upon their capital. If they could not do this there would be no business of underwriting, and sufferers from fire would be relieved only by direct assessment upon their more fortunate neighbors. It is not certain that a year or two of such direct assessment would not be an admirable educative experiment. At present the cost of the fire tax is merged with everything we eat and drink and wear, and the masses of the people are ignorant of the fact that they bear it.

This is no longer true of the manufacturing classes, however. The manufacturer now realizes that he pays a tax directly related in amount to the character of the building he occupies and the nature of his manufacturing processes; and that, in addition to this, he pays for the carelessness of all his neighbors. If he cannot shift this burden by passing it along to the users of his product, merged quietly in the selling price of his goods, then he must pay it out of

his profits, which cripples him in the competitive struggle.

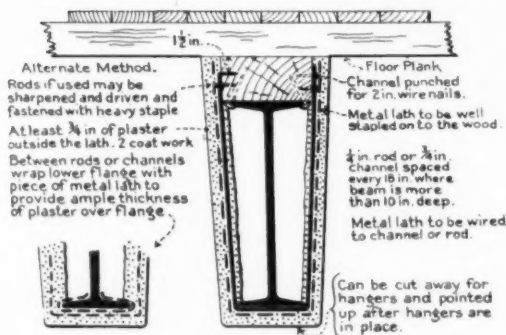
The manufacturer now clearly sees the state of affairs and expects the architects and builders he employs to see it also. If, after his factory is completed, he finds that points respecting the fire hazard have been ignored and that, in consequence of some structural qualification now too late to alter, he is doomed to pay a fire tax, which forethought, with perhaps no additional expense, might have avoided, he may be considerably disturbed by it. Oftentimes structural defects (not mechanical, but from the standpoint of fire hazard), or the unwise location of hazardous factory processes, cannot be overcome after the completion of the building by the addition of special fire protection. In such cases these defects operate as a fixed charge upon the property and contents as long as the building stands.

Fire protection engineering is coming to be a profession by itself, but, after all, its chief distinguishing quality is common sense. The principal demand is that the architect and builder should have a consciousness of the fire hazard; for up to this time very few of them have thought much about it. With the thought of the importance of this item in their minds, no grievous blundering is possible, and technical advice on specific features can generally be had without charge from fire protection engineers in the service of the various underwriters' inspection departments having jurisdiction.

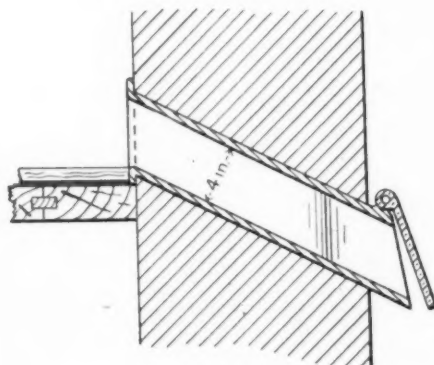
It is the intent of this article to set out certain fundamental principles which may serve as a basis of approach for those who have at yet given no thought to the subject.

Experience in fire protection engineering suggests three points to be kept in mind in planning a factory:

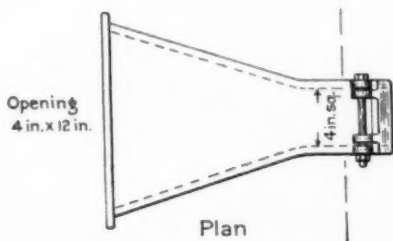
(1) There should be as little combustible material as possible used in its construction and equipment.



SUGGESTION FOR FIREPROOFING STEEL BEAMS.



Section



Plan

DETAIL OF SCUPPERS.

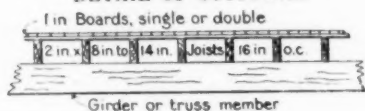


Fig. 1.

UNDESIRABLE CONSTRUCTION.

Fig. 1. Note the large expanse of wooden surfaces exposed to fire and the fact that a slight fire which may burn no more than  $\frac{1}{2}$  inch from each side of the joists practically destroys their strength, whereas a similar fire burning under purlins or timbers illustrated in Figs. 2 and 3 may do but little injury to them.



Fig. 2.

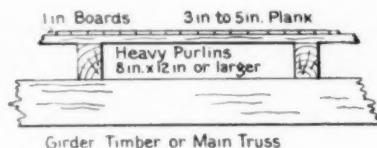


Fig. 3.

GOOD TYPES OF CONSTRUCTION.

Fig. 2 illustrates plank directly on timbers or girders not usually over 10 feet on centre.

Fig. 3 is a type where trusses, posts or girders are widely spaced, necessitating use of purlins to support planks.

Note that an 8 x 12-inch purlin has an equivalent amount of wood to six 2 x 8-inch joists spaced as in Fig. 1, and that the latter expose 108 square inches of surface to a fire as compared with 32 square inches in the former.

(2) Each floor should be absolutely cut off from every other floor, and each section from every other section, so that fire may not communicate.

(3) Every part of the factory should be equipped with extinguishing apparatus.

It is obvious that a factory of reinforced concrete will present certain advantages respecting the fire hazard over the slow-burning or "mill-construction" type; although the latter is preferred by many manufacturers as presenting more convenient surfaces for the attachment of pulleys, shafting and machinery. Slow-burning construction is not undesirable if properly safeguarded and protected.

The advantages of the use of reinforced concrete appear when we consider that with such construction every floor may, by avoidance of vertical openings through it, be made practically a fire wall. The floors being incombustible, a fire in any story may generally be confined to it. In the old-type factory, having open elevator shafts and belt openings from floor to floor, fire quickly ran from story to story and was soon beyond

control of the firemen. It is essential that in all factories, of whatever type of construction, stairs, elevators and belts be placed in fireproof enclosures, with openings to each floor protected by fire doors or shutters. If, in addition to the omission of all vertical openings, provision be made to drain the floors through scuppers set into the outside walls, the possibility of water damage to goods or materials on floors below is much lessened. The standard form of brick or concrete stair and elevator tower may also serve this purpose. If the building, as a whole, is of fire-resistive material, it naturally presents less fuel upon which a fire may feed, and there is therefore less chance of a serious fire if for any reason the extinguishing agents are temporarily disabled. It must be remembered, however, that buildings are often destroyed by the burning of their combustible contents, and in all types of mills and factories the floor areas should be kept down to the minimum limit consonant with convenience and economic operation of the plant. These areas should be divided by fire walls, all openings in which should be protected by standard self-closing fire doors. These precautions minimize the danger of a rapid spread of fire horizontally. All mill-constructed buildings, if of large area, should be divided into sections by special fire walls extending above the roof and out beyond the walls on either side.

Whether exposed to possible fire from adjacent buildings or not, there should be no wooden frames or trim about the windows. Window frames should be of metal, fitted with sashes of wired glass, for under strong draught fire frequently creeps up outside from story to story by means of the windows, consuming the wood trim and igniting contents of the building on each floor. Metal window frames are now constructed that they will stand very considerable exposure to fire without buckling or releasing the glass, and their liberal use in all varieties of buildings is greatly to be desired. The sashes may be operated as conveniently as those of any other window.

It will be observed that all the suggestions made for fire walls, stair and

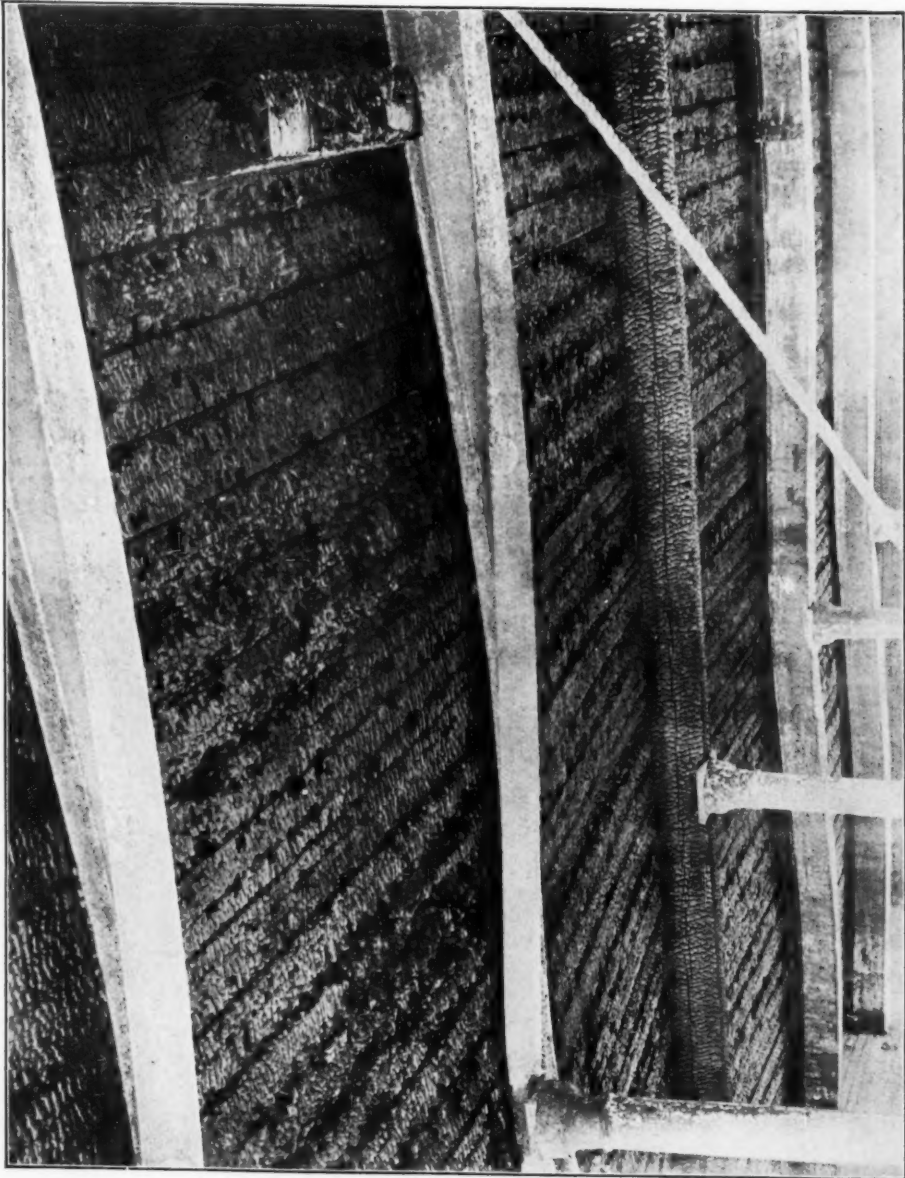
elevator enclosures, and window openings are as applicable to buildings of mill or slow-burning construction as to those of concrete. They should be followed, as far as possible, in all factory construction and in mercantile buildings as well.

Mill or slow-burning construction presents its own inherent problems. Enough wood must be used to insure strength and stability, but superfluous wood should be avoided. It matters very much as to just how the quantity of timber used may be disposed. The guiding thought of the architect should be to present to fire attack the least practicable amount of wood surface.

For example, a mill planned with heavy beams, eight to eleven feet on centers of continuous spans from wall to post or post to post of from twenty to twenty-five feet, is infinitely more desirable than one of miscalled mill construction having longitudinal girders resting upon posts on which girders are placed four feet or less on centers. The latter construction not only adds to the exposed wood surfaces which may be attacked by fire, but the disposal of the timbers obstructs the action of sprinklers and prevents the sweeping of hose streams from one side of the mill to the other.

No architect with the consciousness of the fire hazard will ever plan for either manufacturing or mercantile occupancy those undesirable fire-boxes known as "light-joisted" buildings. Light joists or rafters two or three inches in width, spaced from ten to sixteen inches on centers, ignite and burn like kindling. Their numerous corners furnish projections for easy ignition. The menace of such construction is generally aggravated by sheathing under the joists. This provides a series of wooden cells, pervaded with concealed spaces in which fire may riot and lodge and dodge extinguishment until the floor or roof is burned through. By the same token partitions of light wood should be avoided.

Timber posts offer greater resistance to fire than wrought iron, steel or cast-iron pillars, and are preferable in mill construction. Experiments made for the Boston Manufacturers' Mutual Fire In-



FIRE IN A BUILDING IN COURSE OF CONSTRUCTION.

The stability of the single 8 x 10-inch wooden timber was not affected, although the 10-inch steel beams sagged and were twisted to a degree which required rebuilding. The wooden beam was used because not enough steel had been ordered to complete the work promptly. In rebuilding, wooden beams were used throughout.



insurance Company at the United States Arsenal at Watertown, Mass., show that sound timber posts of the proportion customarily used in mill work yield by direct crushing and not by crippling; the strength being directly as the area of cross-section at the smallest part. The columns yielded at about four thousand five hundred pounds per square inch, confirming the general practice of allowing six hundred pounds per square inch as a safe load. Square columns are therefore one-fourth stronger than round ones of the same diameter, and do not encroach to any appreciable extent upon the floor space. It is the general practice to bore a hole one and one-half inches in diameter along the axis of the column to reduce checking. This should be done in any event, for if posts of unseasoned wood should by any chance be painted, varnished or filled, they are liable to be attacked by dry rot if unventilated. The National Fire Protection Association has recently published a report by one of its members, Prof. Ira H. Woolson, of Columbia University, descriptive of the collapse of a building in New York City from this disease of fermentation of unseasoned posts.

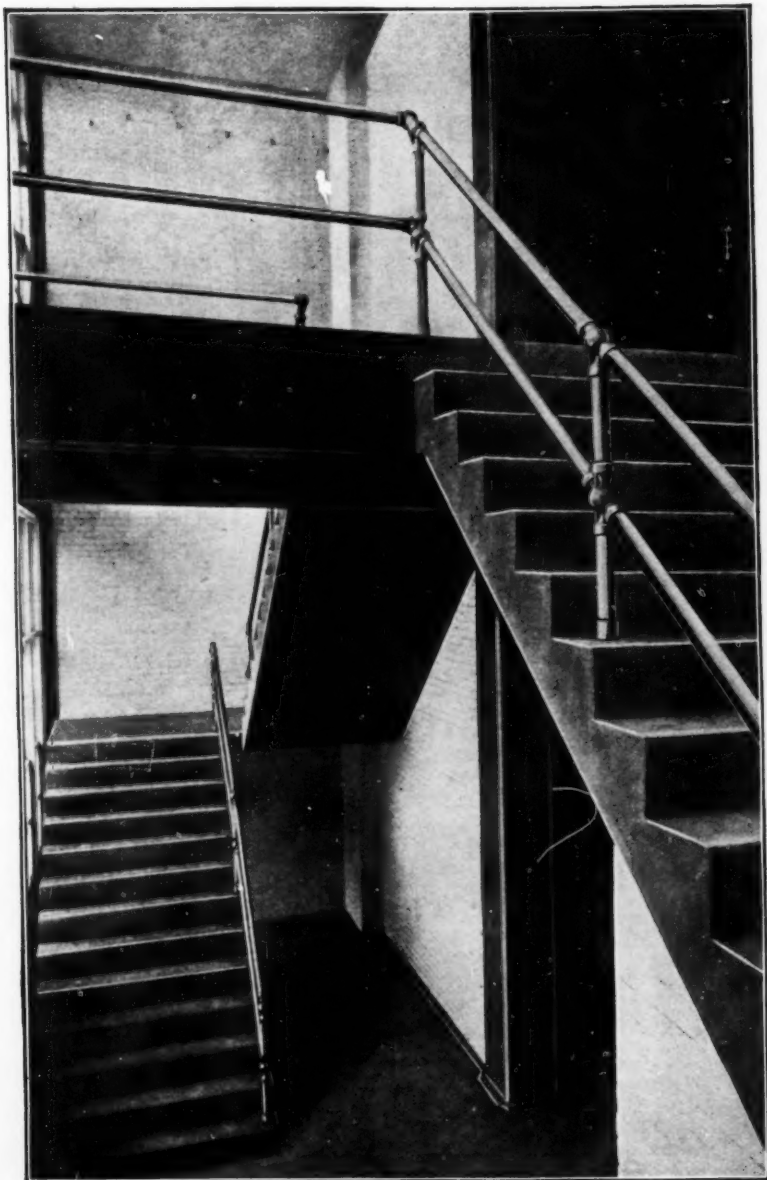
In machine shops and other plants requiring exceptionally heavy floor construction above the ground level, steel beams are frequently called into service. With these, if wide spacings of from seven to twelve and one-half feet are maintained, the advantages of standard mill construction are not forfeited if the steel members are suitably fireproofed. Desired floor stiffness between beams may be secured by making floors of two-inch joists on edge spiked together, the thickness of the floors varying with the loads and span from five to eight inches or more. This floor being practically a single unit, provision must be made for longitudinal contraction by making a continuous joist in the under flooring at intervals, with, of course, arrangement for tying the building together.

One thickness of hard, close-grained floor boards, laid over planks with two layers of resin-sized paper between, is a good floor. A method that is growing in favor in high-class factories is to lay a

board flooring diagonally or at right angles to the plank and over that a top floor of brick or maple, laid lengthwise. This intermediate floor gives great resistance to the lateral strain or vibration. It can be made of cheap lumber, and in many factories is well worth the additional cost.

It is obvious that where steel beams or posts are used they should be properly protected. As steel or wrought iron, when heated, will fail by buckling or bending before an equivalent beam or post of wood will be dangerously affected, it is of importance that steel members essential to the stability of the structure be fireproofed; otherwise a fire in a lower story may bring down in wreck everything above it. Where steel beams support wooden floors they must be fireproofed if they are to resist fire as well as the floors. The accompanying cut gives in detail an inexpensive method of protecting steel beams, and this is also applicable to wrought iron or steel columns. A more substantial method is usually advisable for the latter, however, and protection against mechanical injury near the floor should be provided.

There is another matter which should never escape consideration in building a factory. This is the special fire hazards incident to the character of the factory product. The picker room of the cotton mill is a luminous example, where fire frequently occurs from foreign substances striking the pickers and igniting by the accompanying spark, the inflammable cotton. Sufficient statistics are now available on almost every well-known manufacturing process to indicate just what elements in such process are especially susceptible to fire. Bulwarked by this knowledge, it is prudent to segregate from the principal values of the factory all special processes demonstrated by experience to be especially hazardous. This does not mean that such processes must be carried on in separate buildings at the cost of traveling time and inconvenience. The problem of segregation can now be met without shifting the process out of its logical place in the routine of manufacture. In a fireproofed factory only a separate room,



STAIRWAY OF REINFORCED CONCRETE.

May be built with safety treads to prevent wear and protect edges of concrete. Applicable to any type of factory building. A safe means of exit or for access to upper floors with hose streams. It makes possible perfect separation of each floor from the others.

or, at best, a separate floor, is needed. The manufacturer who, once when he had a fire in some room where volatile oils, for example, were used commonly lost half his plant, or, at any rate, so drenched his premises with water as to make a fortnight's suspension necessary,

guishment without a drop coming through below. The water runs as harmlessly from it as from the deck of a ship.

In mill construction, it is easy to fireproof the floors and ceilings of any room in which quick, flashy fires are liable to occur. In the picker rooms of cotton



Showing building gutted by exposure to fire. If windows had been of wired glass in metal frames, it is probable that fire might have been kept out of many of the stories, and the contents therein saved.

can now, if he likes, so dispose that hazard as to have a fire every other day without disturbing the other parts of the factory. The modern fireproof room, equipped with automatic sprinklers, having a slightly pitched floor and scuppers at the walls, can be flooded for fire extin-

guishment with a drop coming through below. The water runs as harmlessly from it as from the deck of a ship. The metal lath being applied directly to under side of the planking and around the beams.

With the general outline so far given for his guidance, the architect or builder

will have before him the main points in building construction for the protection of his clients respecting the fire hazard. A consciousness and proper consideration of them may save many dollars in insurance premiums and at the same time

cies. These may appear to be outside the proper province of the architect, but his knowledge of their character and importance will help vastly in the convenience of their installation, and a little preliminary thought about them may



Showing satisfactory fire retardant service of wired glass in metal window frames. Warehouse across 20-ft. alley was totally destroyed. Windows toward rear shown boarded up were broken when side wall of burning building fell.

provide an attractive risk that with suitable further protection can hardly, under any circumstances, prove a total loss. There remains, however, after observance of the points of construction, consideration of the fire-extinguishing agen-

save much tearing out and minor reconstruction. The architects who led the van in providing shafts, channels and runways for electric wires before such conveniences were demanded by inspectors, saved their clients much annoyance.

UOP M

It is obvious to any well-informed person that the manufacturer who to-day builds without provision for automatic sprinkler protection almost wilfully endangers not only his plant, but the lives of his employees. It is not sufficient that the building be fireproofed. Fireproof is but a relative term. Buildings of fire-proof construction are often wrecked and ruined by the burning of their contents. Provision must be made for the extinguishment of a fire the moment it starts. Automatic sprinklers will do this if properly installed with an adequate water supply. Where a sprinkler system fails it will in almost every case be found to have been somehow neglected previous to the fire. Automatic sprinklers, with their increasing adoption, have almost eliminated a kind of fire which used to be especially destructive, namely, explosions of gaseous products generated by previous slow and imperfect combustion in stock or goods. Automatic sprinkler protection should therefore be considered imperative and intelligently provided for, and all concealed spaces or places difficult to protect properly by such a system should be studiously avoided. Vast inconvenience may be obviated by architects and builders giving thought to this point. Ample water supply for the average factory demands two independent sources. One should be by gravity and of sufficient volume and pressure to afford a good supply until the secondary supply can be drawn upon. Pumps, tanks and other details are not within the scope of this article; nor are fire-pails and hand chemical extinguishers, which need no advance provision, being placed in any convenient or desirable location.

The architect should give thought to a stand-pipe system, however, in factories of three stories or higher. They are invaluable for carrying water for hose streams to upper floors, thus making unnecessary the handling of hose on ladders or in stairways, which is difficult and often entails costly delay. They should ordinarily be placed in the main stair towers, or, at any rate, on the opposite side of the wall from the rooms or buildings they are designed to protect. Where buildings are near enough each other for the roofs to afford vantage points for use of hose streams, stand-pipes should be extended to supply roof hydrants.

In factories having loose combustible stock in process, an equipment of small linen hose on each floor is invaluable. It is best to supply this from an independent system of small pipes. It may then be available in case water is temporarily shut off the sprinklers; or in final extinguishment of smouldering sparks after sprinklers have been shut off to save excessive water damage.

There are many other details to be considered in properly protecting a factory from fire, but they are details in which the fire protection engineer is not dependent upon the provision or co-operation of the architect. If the points touched upon in this article have been made clear enough to enable the architect or builder to gain a general survey of the responsibilities his clients are coming to impose upon him, the absence of technical instruction will not impair its value.

*Franklin H. Wentworth,*  
*Secretary Natl. Fire Protection Assn.*



## The Brooklyn Heights Casino

### THE ARCHITECTURAL TREATMENT OF BLANK WALL

A quaintly picturesque and highly interesting edifice in red brick and light limestone must arrest the gaze of every passer through Montague Street, near Hicks, on Brooklyn Heights, New York City. In this neighborhood, indeed, the average of architectural interest is high, for the "metropolitan district." If the wayfarer who is "held up" by this particular edifice happens to be a person given to analyzing his own sensations and emotions in the presence of works of architecture, a process which involves some analysis of the works of architecture themselves, he will be moved to reflection.

One of his reflections will be apt to be, how comparatively happy is the architect whose problem allows him ample expanses of blank wall. Of course, to get the good of the advantage, he must not be a blank architect. Melancholy examples are not wanting of blank architects who are so far from living up to their privileges in the article of blank wall that they manage not to "develop," but to "devil up" their expanses. They are possessed by the necessity of "doing something" to them. So far are they from appreciating what one of Dickens's characters calls "the valley of peace and quietness," that they go to work to make the peaceful expanse as fussy and uneasy as if there had been laid upon them the unhappy necessity of occupying it with a huddle of windows. Such pieces of inappreciation we all know, and there is no occasion to name them. But when the other kind of architect, not the blank architect, has a scheme which enables him to introduce a comfortable breadth of blank wall, the beholders of his work, if of a sensitive and grateful constitution, are apt to rejoice with him. Some of our most welcome architectural objects have come about in this way.

The problems are not very numerous which enable or justify this sort of treat-

ment. But when one of them falls into the hands of the right designer it does not fail to conduce to the happiness of his fellow citizens. One of them is an art gallery, an art gallery situated on the upper floor of a building of which the lower floors are devoted to subordinate uses; an art gallery of which the prime requisites are abundant and steady light, which can be best obtained from overhead, and abundant wall space, undisturbed by side lights, for the exhibition of pictures. That was, in effect, the scheme of the old Academy of Design, in Fourth Avenue, and the fidelity with which it was carried out was one of the chief factors in the great architectural success of that building. Be it that the motive was taken, frankly, from the Doge's Palace, with a modification of the two lower arcades, and with the omission of the rather disfiguring huge windows which in the original cut the mosaic of the blank third story. The substitution for these in the modern building of the decorated bull's eyes, with the variations of color in the diaper of the stonework of the blank story, was quite adequate to relieve the monotony of the wall. It is true that the overhead lighting might have been more perfectly expressed. But the building was a great success all the same, and the blank wall counted for a great deal in the success.

An armory is another building in which it is permissible to diminish the openings to the "irreducible minimum" for the purpose of giving more forcible expression to the expanse of wall. This has doubtless been best and most thoroughly done, among our New York City armories, in that which the late Mr. Thomas did for a regiment of infantry, to which he subsequently adjoined quarters for a squadron of cavalry, in upper Park Avenue. Even that comparatively exemplary work, however, would have still been more exemplary if the architect

had fully lived up to his privilege in the way of reducing his apertures. But it would be hard to name any of his competitors or successors in the same line who have done it so much or so well. A brewery is another class of building which offers itself as available for the expression of blank wall. But none of our local breweries has fallen into artistic hands. *Caruerunt sacro vate.*

A safe-deposit building is another class of structure in which, both practically and for the purpose of appropriate ex-

parts of all, forming, as they do, the ultimate abutments not only of the walls which end at them, but of all the openings which exert any lateral pressure upon these walls. And in the Lexington Avenue building the architect felt himself constrained, by the exigencies of his lay-out, to cut the biggest and most important hole in the entire building, being the main entrance, precisely at the base of the angle, which, architecturally, should have been the most unbroken mass of wall in the structure. In the



THE EIGHTH REGIMENT ARMORY.

Park Avenue and 94th Street, New York.

John R. Thomas, Architect.

clusion, it is evidently desirable to reduce the openings to a minimum. Mr. Ware has given two interesting examples on that kind, one at the corner of Lexington Avenue and Fifty-second Street, and another at the corner of Seventh Avenue and Fifty-second Street. It is a pleasure to say that the latter, which is also the later, shows a great advance upon the former and earlier. Not that the earlier is otherwise than very good, as such things go, but it is manifest that in a building of this kind the corners should be the most solid and fortified

later building he managed to shift this feature far enough from the corner to give its arch such a visibly sufficient flank of wall on each side as would effectually abut it. All the same, it had evidently been better for the architectural effect of his work if he could have seen his way so to modify the "lay-out" as to bring the big openings at the center of each front and to frame them in the whole height and expanse of the wall.

A theatre is another problem which invites and requires a considerable extent of unbroken wall, at least in all cases in



Manhattan Storage and Warehouse Company.  
52d Street and 7th Avenue, New York.  
James E. Ware, Architect.

which the stage wall is exteriorly visible. Probably no discerning inspector of the Seventh Avenue front, properly the rear, of the Metropolitan Opera House, ever passes it without reflecting how very much more impressive it is than the Broadway front. I was about to say that the Seventh Avenue front is not "architecturesque" at all. But, in fact, it is architecture in the sense of being disposed and considered with reference to its expression. Here, again, the main opening, the only opening under the gable, seems rather too close to the corner for the best effect. But, being intended primarily as an aperture through which whole "scenes" can be thrust in, it is so narrow in proportion to its height that it becomes in effect a mere slit, which rather punctuates than weakens the solidity and massiveness of the wall in which it is cut. The buttresses are clearly enough, practically necessary reinforcements of a wall which, by the conditions of its existence, can de-

rive no support from floor beams. They reinforce it also to the eye and assist the visible assurance of stability, which, with the sparing but appropriate decorations of the cornice and the gables, make this front, blank as it is, one of the welcome objects of Manhattan.

The buttressing in this rear wall of the Metropolitan, as a symptom of organization and design, is no doubt one of the chief sources of its effectiveness, one of the reasons why it makes so much stronger an appeal to the sensitive beholder than the Broadway front of the same edifice, which has so much more of the ostentation of architectural treatment and so much less of the reality. But take another and much later "stage wall," which owes nothing whatever to the architect, except the choice of material, for good brickwork. I mean the stage wall of the Hippodrome on West Forty-third Street. This is nothing but a sheer cliff of brickwork, in which the breaks and openings, such as they are, simply interfere with the total effect, instead of promoting it. And yet what an impressive total effect it is! The moral, to any architect who appreciates "the valley of peace and quietness," is obvious, especially if he have a well-grounded diffidence in his own artistic powers. It is



Rear of the Metropolitan Opera House,  
New York.

J. C. Cady, Architect.

the same drawn by that prudent politician, Lord Melbourne, the first Prime Minister of Queen Victoria, when any complicated question arose, full of trouble and danger, and the question was, What was to be done about it? On



The Hippodrome.

43d Street and 6th Avenue, New York.

Frederic S. Thompson, Architect.

such occasions the wary man was apt to give the counsel—"Can't you let it alone?"

Last of all, among these problems, so grateful to the right architect, and, in case the right architect gets hold of

them, to the right observer, is the problem of the athletic club, the athletic club which inwardly requires absolutely blank and blind walls, tennis courts, squash courts, or what not, lighted entirely from above, and presenting, on the exterior, surfaces to be "treated" by the architect according to his ability and sensibility. The danger, manifestly, here also, is of overtreatment. It happens that we have several exemplary instances in this class on Manhattan Island. Nobody is in danger of overadmiring Mr. Croker's original Athletic Club, at Sixth Avenue and Fifty-fifth Street, which he subsequently unloaded on the municipality as quarters for the Board of Health, to which its architecture is as irrelevant as to its original purpose, having nothing whatever to do with either. Neither is anybody in danger of admiring anything in the successor of that edifice in West Fifty-ninth Street, excepting some rather clever and characteristic detail in terracotta. But the original Racquet Club, at the northeast corner of Sixth Avenue and Twenty-fourth Street, designed by Mr. Thorpe in the early seventies, was a building full of character and interest. The special interest, it is true, consisted in the combination of metal and brickwork in the lower story, which was given over to shops in the bracketing of the roof, and in the combination of timber and brickwork in the projecting oriels. But the special purpose of athletic "courts," solidly bounded, was not expressed at all. The building was a combination of shops and apartments, with an athletic club, and, while the two former purposes were admirably expressed, the last was shirked. Possibly the building is now demolished (I have not passed that way for some weeks). It might as well be, for some subsequent vandal owner, by means of paint, did his utmost to smear all the character out of it.

Of the successor of this work, of which the primary purpose was ancillary to the building and unexpressed in it, there is no need to speak at length. The Racquet Club in West Forty-third Street has been recognized, ever since it was built, as one of our architectural possessions. The depth, weight, mass, im-

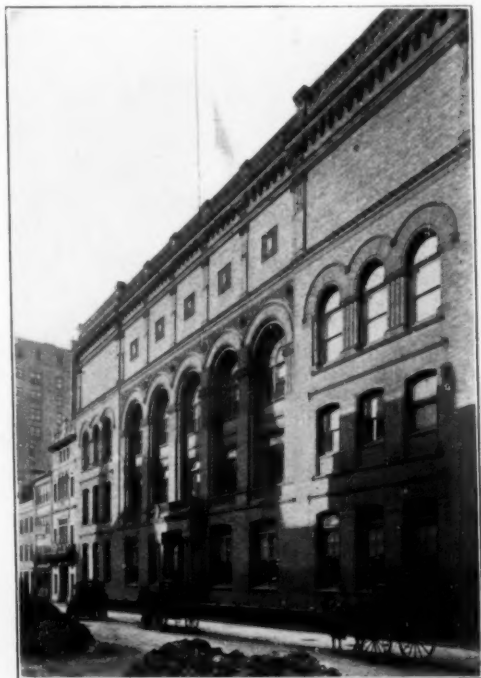


The Old New York Athletic Club, now the  
Department of Health.  
6th Avenue and 55th Street, New York.

pressiveness of that two-story arcade, occupying the center of the building are bound to make their impression upon the most preoccupied or indifferent passer, and these qualities are admirably promoted by the clever and original detail, the best, I think, that its author has given us. But the blank wall of the courts, a series of large panels, with no visible roof, and only, by way of relief, an effective cartouche in the middle of each panel, rather piques than assuages curiosity as to the purpose of its creation. One is rather left at liberty to guess than explicitly informed that these blank walls are, in fact, the enclosures of athletic courts.

Very likely this defect of expression was unavoidable, considering the other purposes of the building, and surely one would not say an inappreciative word about so admirable a work. But Mr. Boring, the author of the Brooklyn Heights Casino, is none the less to be congratulated that the conditions of his problem enabled him to attain the explicit expression which Mr. Eidlitz may have been compelled to forego in the design of the front of the Racquet Club.

and, moreover, enabled him to attain so quaintly picturesque and individual a result, not only without transgressing the conditions under which he wrought, but by the simple and faithful observance of those conditions. For surely the front itself tells its entire story. It is abundantly manifest that something is going on in those side compartments of the second story which requires an unbroken enclosure of wall, and light only from overhead. This light is very visibly supplied by the slanting skylights imbedded in the slope of the roof, which, indeed, one would rejoice to see protected by gabled Dutch dormer frames in imitation of the central gable. The skylight visible at the crest indicates that there are other courts behind, with their separate lighting for their several purposes. The expression is as complete as it is interesting. To be sure, it does not unmistakably proclaim a tennis club, unless one chances to note that the anchors of the central gable are fashioned in the



The Racquet Club.  
West 43d Street, New York.



similitude of tennis racquets. It might be a museum of Dutch art, or a club house with galleries, which, in fact, is precisely what it is, excepting that the galleries are "courts." But it is, in either case, evidently the result of a faithful following out of special requirements, a pursuit of the particular and not the general "architecturesque" expression, and, as such, given skill, it makes a far more vivid and individual impression than a "front quelconque" can ever possibly make.

Why Dutch? some man may say. In fact, the Hollandish badge is only the crowstepping of the gable and the party walls. That would be quite justified by a reference to the origin and history of "Breuckelen," if it needed any justification, which it does not, being quite its own excuse for being. For that Dutch architecture of the sixteenth and seventeenth centuries, of the time of the expansion of Holland and the founding of New Amsterdam, though called "Renaissance," was, in fact, an architecture of craftsmanship and not of formula; had nothing at all to do with the pre-

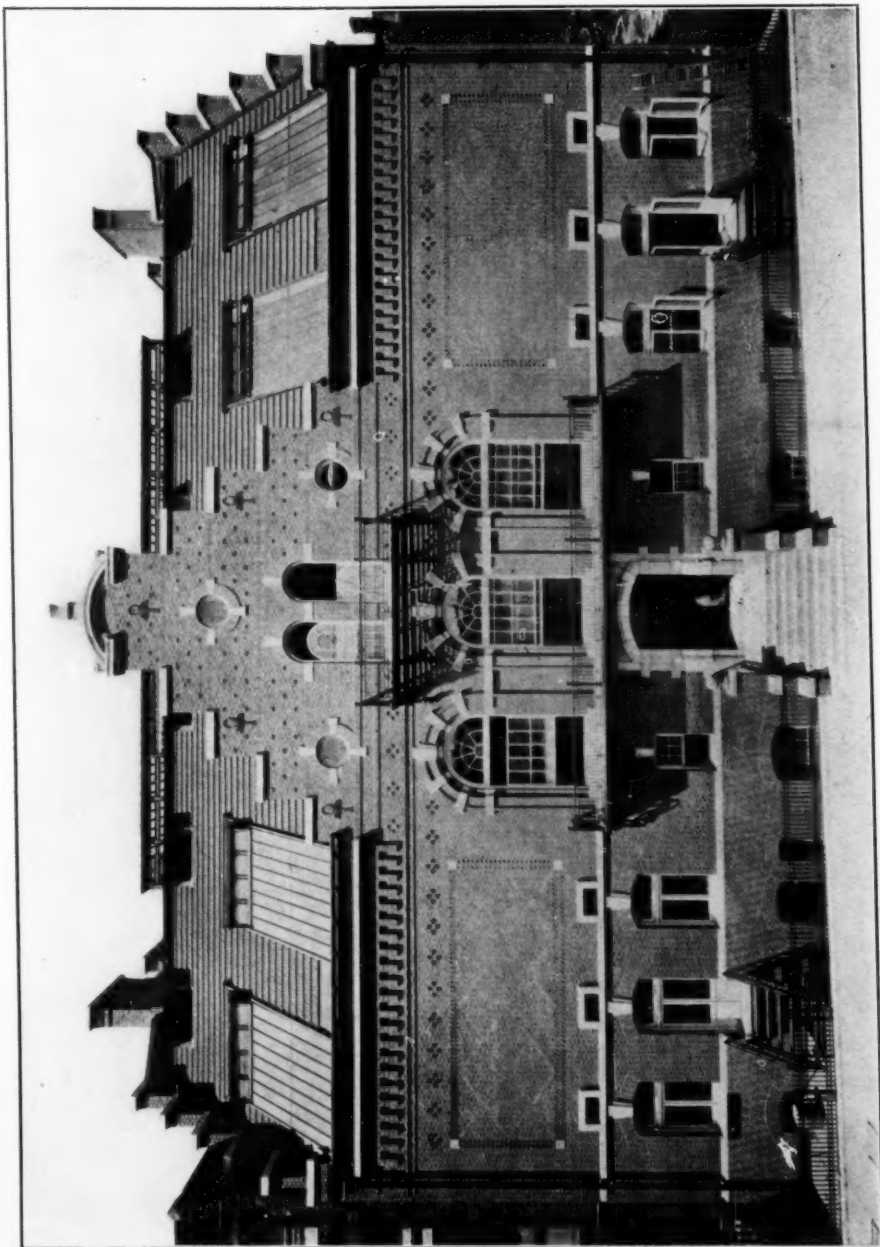
cepts of Vitruvius, was a vernacular and home-grown manner of building, solving constructional problems, as, for example, the coping of a gable, in a manner still altogether eligible. The directness does not fail the modern architect anywhere, not even in his exhibition of the square holes at the main floor line, which one might fancy to be "scuppers," and that the decks within had to be flushed every morning, were he not apprised that, in fact, they are ventilating ducts of absolute necessity in a windowless room. But observe how impressive the expanses of wall are in themselves, the panelation supplying the place of buttressing and avoiding monotony, and how they set off and exhibit the central feature, the triple arcade. The very "leaders" at the ends serve the purpose of the wall shafts of the Gothic architects, and define and emphasize the end walls. The detail, in brick or stone or iron, is all admirably in the quaint and homely key of the entire composition. The right architect is lucky to fall in with such a problem, and the problem to fall into the hands of the right architect.



CORNER APARTMENTS.

Berlin.

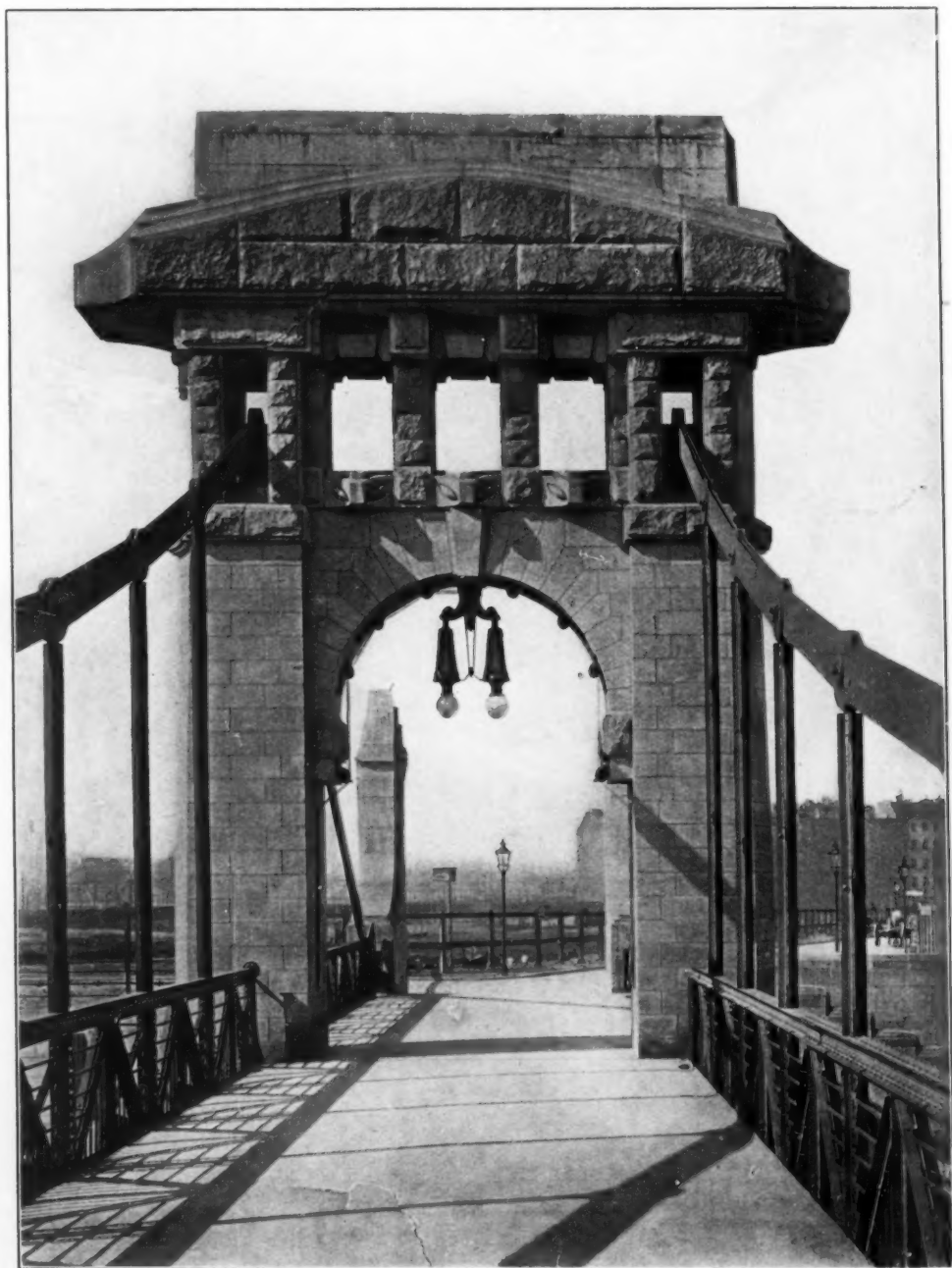
Prof. Bruno Möhring, Architect.



THE BROOKLYN HEIGHTS CASINO.

William A. Boring, Architect.

Brooklyn, New York City.



Berlin, Germany.

BORSIG BRIDGE—DETAIL OF STONE PYLON.

Prof. Bruno Möhring, Architect.

## Two Bridges in Berlin

There is, unhappily, no denying that we are still far behind Europe in the artistic quality of our scientific building. We are much further behind in the architecture of our engineering structures than in the architecture of what may be called our "architecturesque" structures. The distinction between the two classes of building is none the less real because it is sometimes difficult to say of a given structure to which class it belongs. The common classification, relating merely to the purpose of the structure in question, is neither a scientific nor an artistic classification. It is not so many years since an engineering body formally protested against the giving by the City of New York of the work of designing a bridge to a firm of architects, upon the ground that bridges were a kind of structures which traditionally belonged to engineering. But that was only a tradition, not a reason. Russell Sturgis, in his "Dictionary of Architecture," has expressed the real distinction in terms that do not leave much to be desired:

Whatever is traditional in form and in structure, whatever is admittedly safe, whatever is known to all practical builders as well within the limit of danger, comes within the architect's province; and nearly all his most important artistical results proceed from the treatment of such building as this. All that is so new or so complex as to require careful scientific examination, based upon mathematics, is the province of the engineer. Some, but not many, modern architects are themselves competent, and up to a certain point, may trust their own computations. Some, but not many, engineers have something of that traditional respect for beauty and significance of form that they may make their own designs for the decorative effect of structures which they have to carry out. The great majority of either profession are men who are greatly in need of the aid of those of the other profession, and what the outcome will be is at present entirely uncertain.

Evidently a bridge may be as "traditional in form and in structure" as a house, and much more "within the limit of danger" than a skyscraper. An out-reaching engineer has indeed maintained in public that a skyscraper was a work of engineering rather than of architec-

ture, upon the ground that most of the skyscraper, excepting everything that you see when you look at it, is the work of engineers. And, in fact, a great part of the architect's work in the skyscraper is a task much like that pious, but ungrateful, one of the sons of Noah, namely, to cloak and dissemble the indecorous nudity of the engineer. It would be a plausible contention that the architect was merely the decorator for the engineer, and the architecture ancillary to the engineering, if the same man who provided the decorative envelope for a structure with which it has in most cases nothing, except mechanically, to do, were not also the author of the plan, of the lay-out, of which whatever is done afterwards is but the execution. The contradiction between the architecture and the engineering in the ordinary skyscraper would be a contradiction in terms if the engineering were displayed instead of concealed. Even as it is, it suffices to destroy the pretension of the ordinary skyscraper to be regarded as a work of architecture or of art.

As it is not to be expected that all or most artistic builders will become scientific, or all or most scientific builders artistic, the only thing to do with structures "so new or so complex as to require careful scientific examination based upon mathematics" would seem to be by collaboration. This, in fact, is where we are so far behind Europe. And the difference is rather in public opinion than in professional competency, either artistic or scientific. A German official commission, sent out here to inquire into our railroad system, some twenty years ago, officially and accurately reported that "public works, in America, are executed without reference to art." It is difficult to imagine such a defacement of a sublime or beautiful work of nature by such an ignominious work of art and man's device as the cantilever railroad bridge across the Niagara or the like structure across the Hudson, being

permitted to be perpetrated anywhere in Europe. Yet these two works are highly symptomatic of the usual condition of things in this country. If the engineer of any American railroad were to ask his directors to authorize him to employ an architect to collaborate with him in the design of such a work in order that it might not insult and defile a famous natural scene, there is no reason to believe that, even to-day, he would meet with much sympathy in the "board." He would run the risk of being viewed as a visionary and unpractical person. In Europe, on the other hand, the association of an engineer and an architect is as much the regular thing in an important work of engineering as the association of a sculptor and an architect in an important work of sculpture.

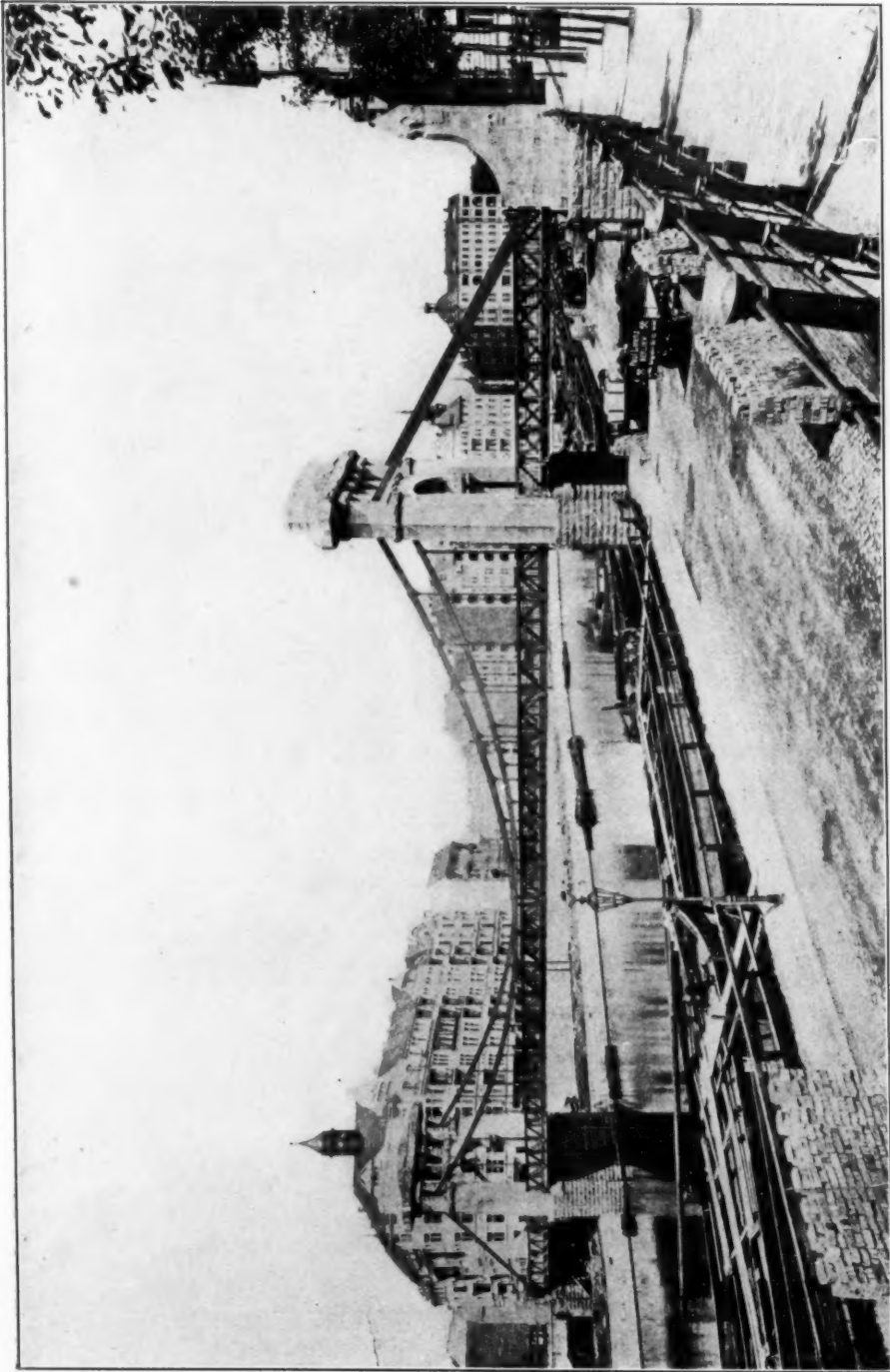
Not that the collaboration leaves nothing to be desired. Too often, the counsel of the architect is taken too late to allow him to give it as to the general scheme. He is apt to be invoked only to add those "unnecessary features," in which, according to Ruskin, architecture consists, to a work already spoiled in the first concoction. Moreover, the school-trained architect is apt to confound architecture with the particular sets of forms in which he has seen it embodied in its historical examples, and so to wrest classics from their original signification, sometimes even in disregard of the material. There are no classical precedents, for example, for metallic constructions. In proportion as a work of engineering is original in its conception, its "scientific" conception, it involves the artistic necessity that it shall grow its own forms. To be successful, the collaboration must, in the first place, begin at the beginning, and in the second place, the architectural collaborator must be a man who is more sensitive to what may be called engineering considerations than can by any means be expected of the common run of architects, even of those who are able to handle historical styles and to complete historical forms.

To let the appearance of an engineering structure take care of itself is the general American tendency in these matters. How could it be otherwise? A

born engineer is at least as little likely as any other kind of man to possess artistic sensibility. He is less likely than several other kinds of men to have cultivated that with which he was born. Moreover, most of the work of an engineer is regarded by him and by his employers as strictly utilitarian. Nothing is required of it but that it shall stand up and do its work. The railroad engineer, as we have seen, runs a risk when he ventures to suggest to his directors that they pay their stockholders' money to enable him to take architectural counsel in the designing of a bridge never so big or conspicuous. He would hardly dare to do it even in those rare cases in which he himself "perceives the necessity," and recognizes that in one of its aspects his work is beyond the scope of his powers and his training. And, at the best, when architectural counsel is invoked, it is apt to be invoked too late. That is to say, the architect is called in to add decorative features and details to a work of which the total effect is already determined. It is at the very beginning, it is in the first conception, that art and science should go together, and that expression should be one of the prime factors in design. Consider that more new forms have been added to engineering, that is to say, of constructions founded on mathematical investigation, in the course of its existence of less than a century, than have been added to architecture in five hundred years. Consider how uncouth so many of these forms are. Uncouth in some cases doubtless by mere reason of their unfamiliarity, but in far more because the construction, the source of the form, is not expressed, and the form is therefore not explained. What a pity that scientific building and artistic building should ever be divorced, when we see in the monuments of the Middle Ages what glorious results they obtained when they were united.

The nearest modern substitute for the mediaeval practice is to associate the scientific designer and the practical designer from the outset. The most admirable of the very great bridges of the world, we may pretty safely boast, are





BORSIG BRIDGE.

Prof. Bruno Möhring, Architect.

Berlin, Germany.

here in New York, the Queensboro and the Manhattan, and they have been produced by this process. The greatest credit is due to Commissioner Lindenthal, who secured the co-operation of Mr. Hornbostel in the engineers' revised design for the former and original design for the latter; and credit, too, to his successors in the Bridge Department who followed his good example by securing the architectural services of Messrs. Carrère and Hastings, when the original design for the Manhattan had been superseded, upon engineering or upon personal considerations. But these great works are almost alone in American practice. The rule is that the artistic success of a bridge depends upon the æsthetic equipment of an engineer who may or may not have any.

"They order these matters better" in Europe. It is true that the architect is apt there also to be invoked only to add features to a work which is made or marred before his arrival on the scene. But this does not happen always. In Europe, too, and notably in France, some æsthetic training is regarded as necessary, along with his technical training, to the equipment of an engineer. Such a beautiful success as the Pont Mirabeau shows the value of a training which enables the receiver of it to express new materials and new constructions in new forms. But, as to the bridges throughout France in general, they are apt to be even less successful in their metal-work, even artistically, than the bridges in this country. They are apt to aim, even in metal, at effects of massiveness, instead of taking advantage, by attenuation and articulation, of the properties of the material. Their architectural features are apt to be adventitious erections of masonry, treated rather academically than vernacularly, applications of conventional forms rather than functional modeling of necessary members.

It may be unfashionable to say so, but it seems to be true that in this branch of applied æsthetics the Germans are in advance of the French. The iron of the "orders" has not entered so deeply into their souls. However that may be, the Germans are immensely in advance of

us. No sensitive reader of the Architectural Record can have looked at the illustrations, in the December number, of the two bridges across the Danube at Budapest without admiration, and no sensitive New Yorker without envy. Had we only as good looking bridges across the Harlem! The Hungarian bridges are by no means *tours de force* from the New York point of view. The beautiful blue Danube at this point is a big river, for Europe, much wider than the Thames at London or the Seine at Paris, seemingly not far from the span of the Harlem. It is true that the Hungarian engineers have not had to deal with one annoying factor in the New York problem. That is the necessity of a drawspan. In Hungary they do not postpone the traffic of a great city to the passage of a brick sloop. It is arguable that this engineering difficulty ought to be an architectural opportunity, but one cannot point out the engineer who has managed to make it so. But with what joy should we come upon bridges as good as these over the river that divides any American city. One is at a loss to choose between the chain bridge with piers of masonry and the Elizabeth bridge, all of metal, or would be, in spite of the necessarily more monumental and massive aspect of the stone towers, but for the immense advantage the stone bridge has in having its backstays half catenaries, counterparting the curve of the central span, like the East River, instead of straight ropes or rods like the Williamsburg.

Herewith are presented views of two bridges in Berlin in which the ordinary American engineer, it appears, may find matter for reproof and for edification. There is no glory to be got, from a strictly engineering point of view, out of bridging the Spree. If it were in this country, it would probably be called a creek, and indeed we have streams as wide, here in the neighborhood of New York, that are so called. To span it, so far from being an engineering record, or even an engineering *tour de force*, is not even an engineering "stunt." Yet this "Borsigsteg" might in its architectural aspects, excite the envy of the ordinary



SWINEMUENDE BRIDGE.

Prof. Bruno Möhring, Architect.

Berlin, Germany.

American engineer, and ought to excite his emulation. It is not, it appears, a municipal work, but is due to the enterprise of a land company which has undertaken to open to settlement a tract formerly belonging to the Borsig iron-works, which have been moved away from the capital. Without doubt, such an entrance to a new settlement constitutes an advertisement, an invitation and an attraction which might very well commend it as an example to American realty promoters, if any, who have a like problem on their hands, as that of a seemly and dignified work. Not that it is exemplary at all points. In the view of the portal, for example, one by no means sees the point of crowning smoothly dressed piers with a rock faced colonnade. The reversal of this arrangement would have been much more logical and effective, and would, apparently, have left a balance which might have been spent on the decoration of the little piers, to their great advantage.

The other bridge, the Swinemuende, is properly a viaduct, being a highway bridge projecting to carry traffic across the extensive trackage of the Stettin and the Belt railroads. It is an extensive structure, having a total length of 750 feet, and in Berlin is considered so costly that it is popularly known as "the Million Bridge." The exact cost is given as 970,000 marks of this monument of municipal prodigality, marks, mind you, not dollars. Innocent Berlin!

What is more to our present purpose is that offers an interesting essay in the idiomatic treatment of metal. In this respect it is both more interesting and more exemplary than the Borsigsteg, since there is here no masonry excepting the supports upon which the metallic superstructure rests—rests, observe, and is not imbedded, but remains with a visible power of the "play" and movement which a metallic construction demands. Throughout the work, there is no applied ornament. The decoration is everywhere the exhibition and exposition of the construction, and the work is visibly all of a piece. It is probably beyond the wit of man to make a latticed iron girder

an agreeable object. At least the wit of man has not yet compassed that result. But what may be called the "bones" of the design, the solid longitudinal and transverse members are so shaped and disposed as to expound their own functions, and to give an expression of power which, with all its grimness, is not without grace. And they are very visibly articulated. The emphasis of the junctures by their enveloping bands is one of the points of the design. The architect himself explains that "all architectural details suggesting profiles in wood or stone, from which most architects cannot free themselves, have been avoided"; and he takes no more credit than belongs to him in adding: "It is owing to this that the decoration does not appear as a superfluous afterthought." Assuredly it does not. Although modern engineering, as applied science, is young, beginning only some years after the beginning of the nineteenth century, the art of metallic architecture is much younger yet, beginning not long before the beginning of the twentieth. It has hardly a past. It has an immeasurable future. Its present practitioners are its pioneers. Every one of them ought to be able to say, with Bacon; "I could not be true and constant to the argument I handle, if I were not willing to go beyond others; but yet not more willing than to have others go beyond me again."

If the pioneers of the art still in its infancy can clear their minds of irrelevancies, and observe the principle of "hoc age"—"do what you are doing"—they have the consolation of knowing that, if they are surpassed and even superseded, they will still not be discredited. They are the midwives of an infant but living art, whereas the practitioners of architecture in the old materials who are content to practice it after formulæ derived from the old forms, so often seem but the undertakers of an effete and dead one. To the new and living art the authors of the Swinemuende Bridge have made an interesting and suggestive contribution.

Montgomery Schuyler.



Deutsches Museum, View from Erhartstrasse

# RECENT EUROPEAN ARCHITECTURE



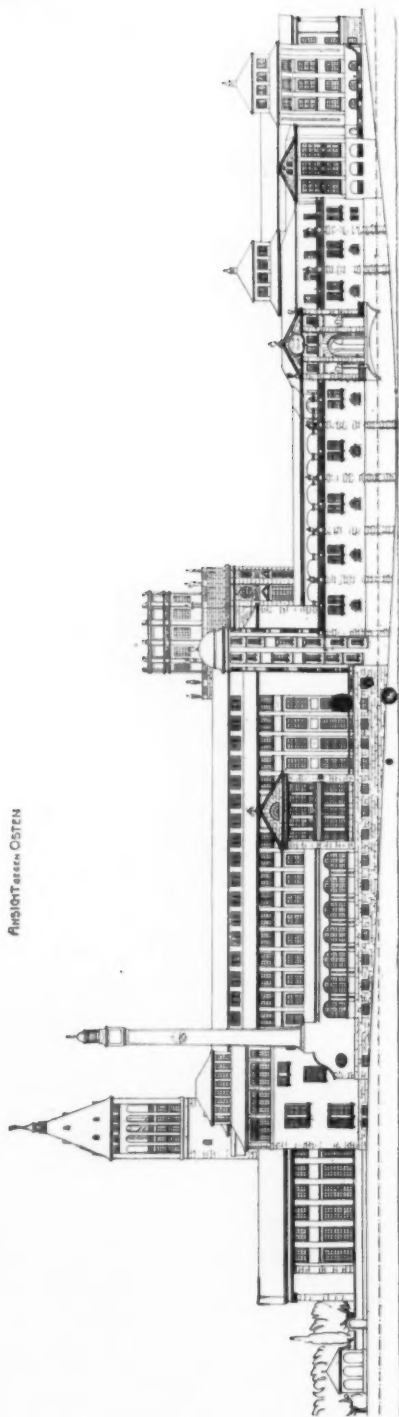
PROFESSOR G. SEIDL—  
Deutsches Museum, Munich

WILLIAM LOSSOW and MAX HANS KÜHNE—  
Terminal Railway Station, Leipzig  
Town Hall, Bremen  
Landständische Bank, Dresden

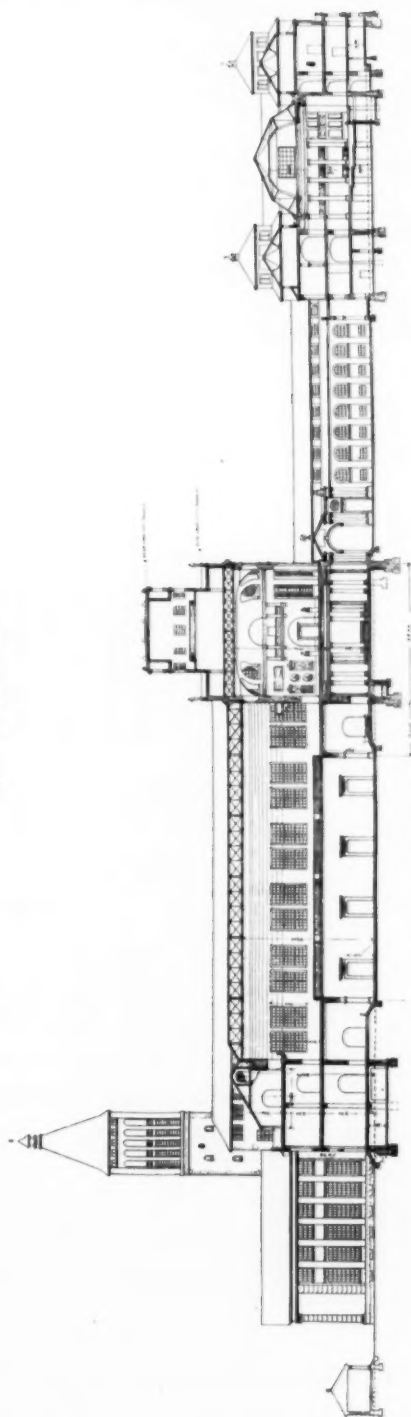
H. P. NÉNOT—  
Banking House for Louis Dreyfus & Cie, Paris  
Offices of International Sleeping Car Company, Paris



Ansicht von Osten



EAST ELEVATION.

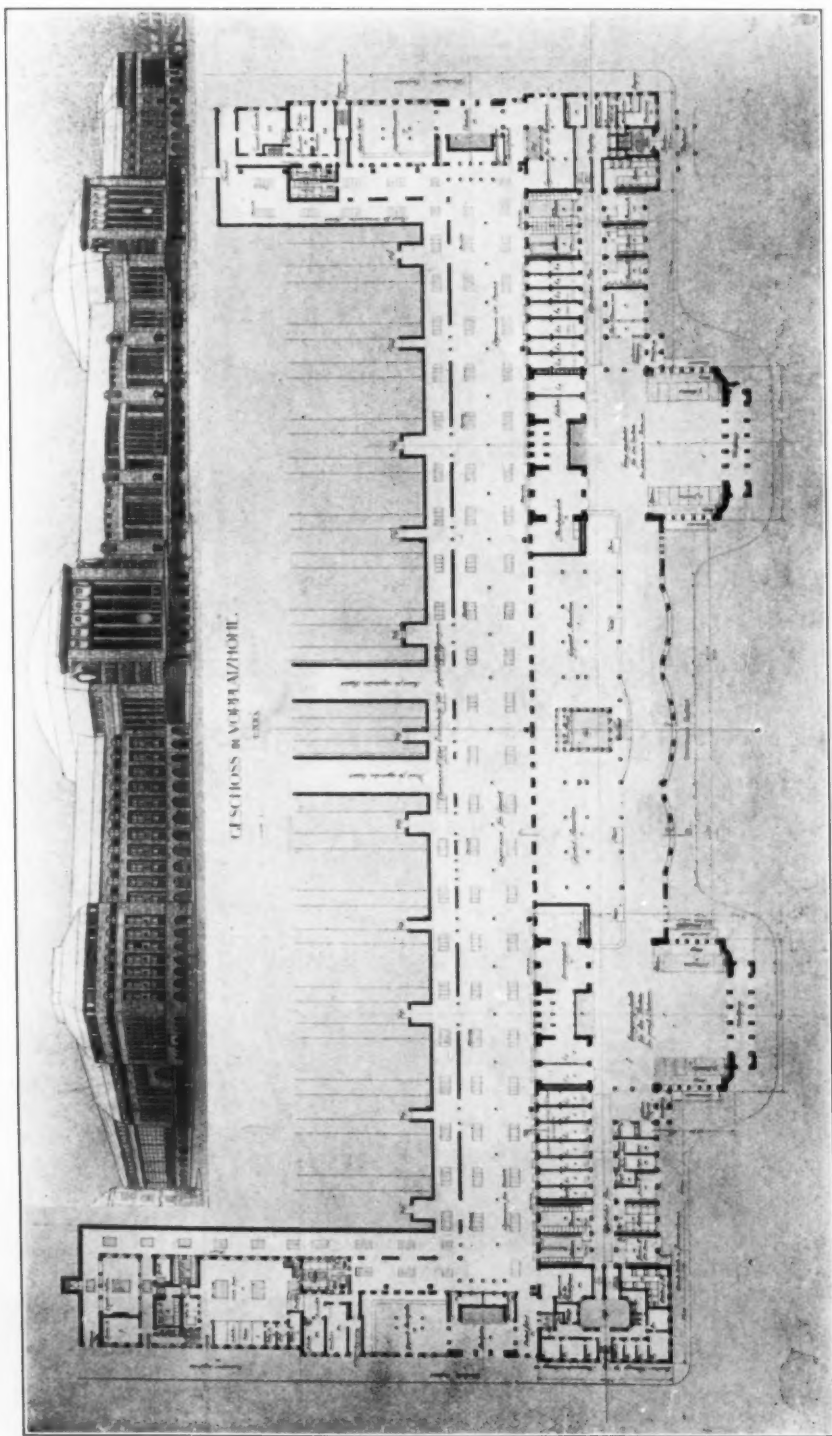


LONGITUDINAL SECTION.  
DEUTSCHES MUSEUM, MUNICH.

A Museum for the promotion of the arts and crafts.

Prof. G. Seidl, Architect.

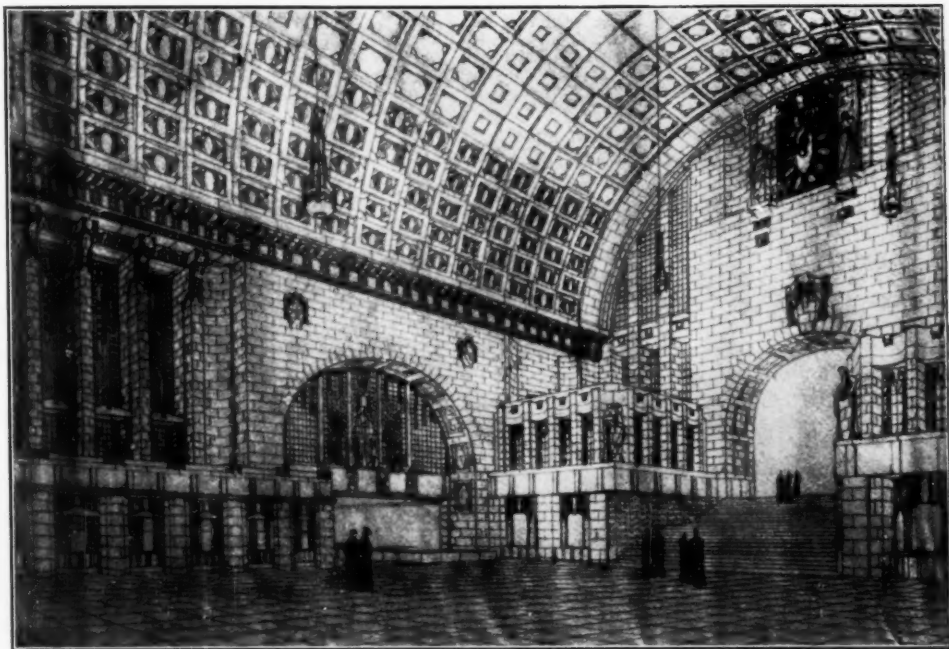




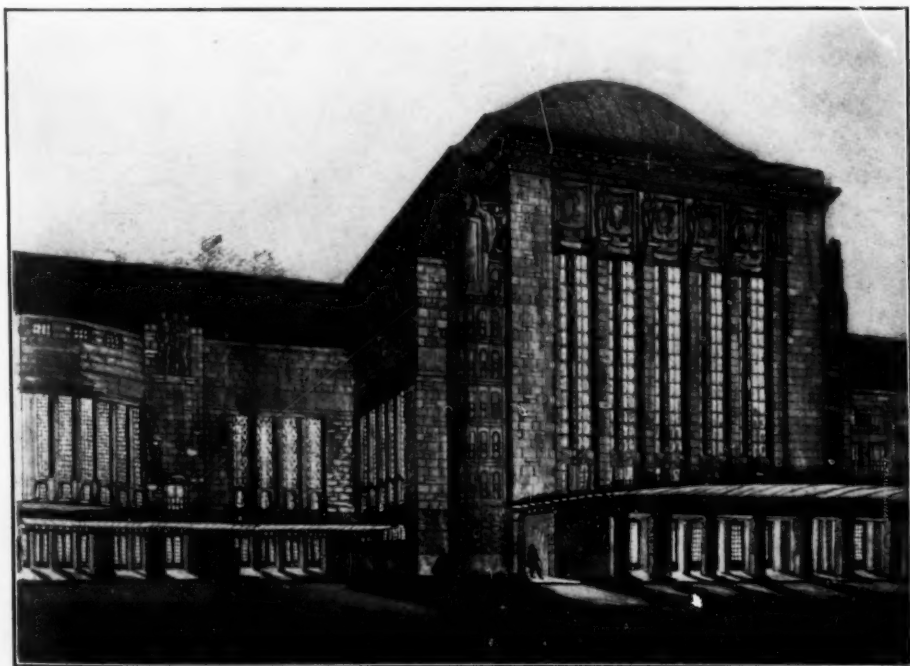
TERMINAL RAILWAY STATION, LEIPZIG.

The largest railway terminal in the German Empire and one of the largest in the world, now in course of construction. The main façade is over 800 feet long.

William Lossow and Max Hans Kühne, Architects.



One of the two great entrance rotundas.



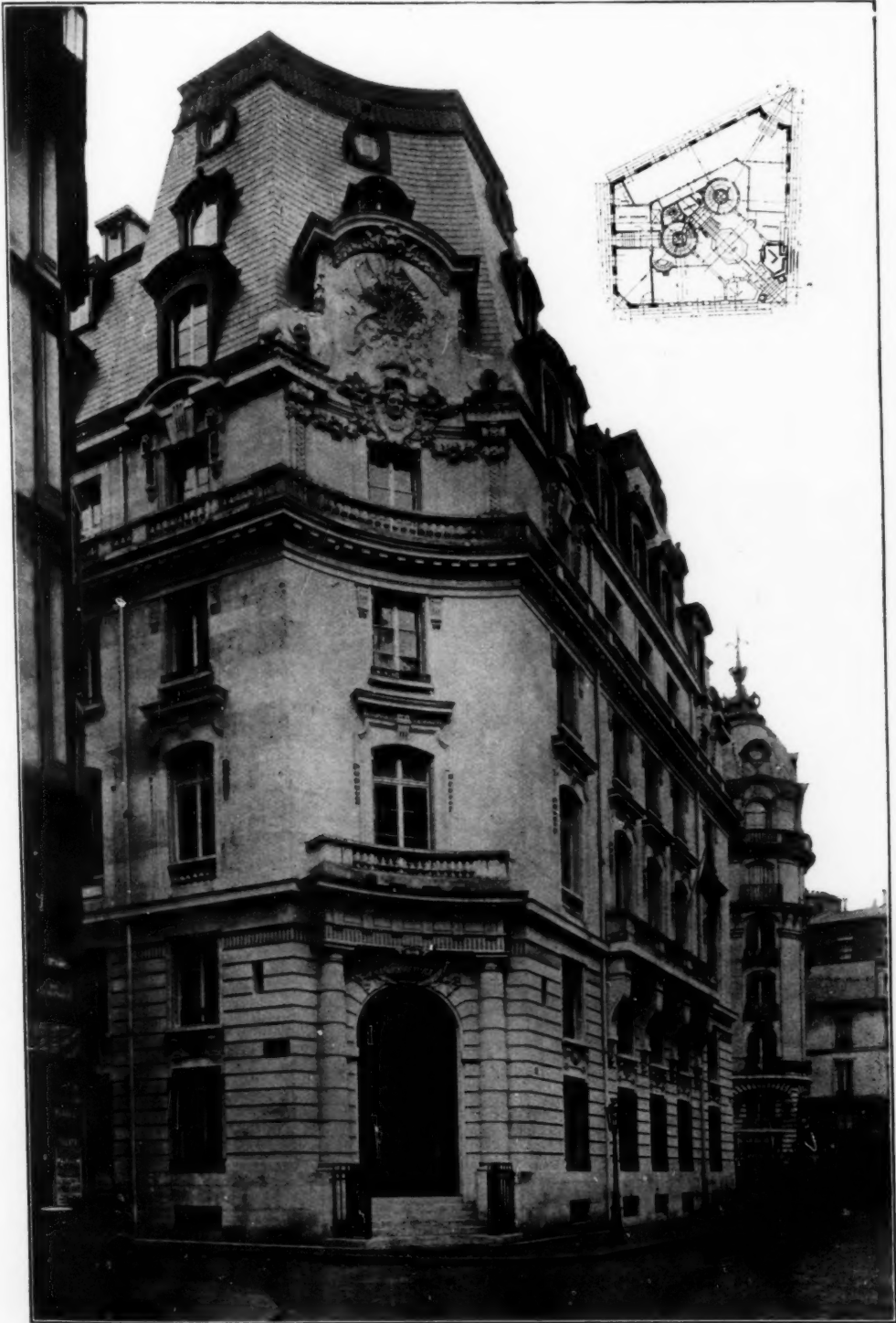
Detail of one of the entrance pavilions.  
TERMINAL RAILWAY STATION, LEIPZIG.  
William Lossow and Max Hans Kühne, Architects.



TOWN HALL, BREMEN.

LANDSTAENDISCHE BANK, DRESDEN.  
William Lossow and Max Hans Kühne, Architects.

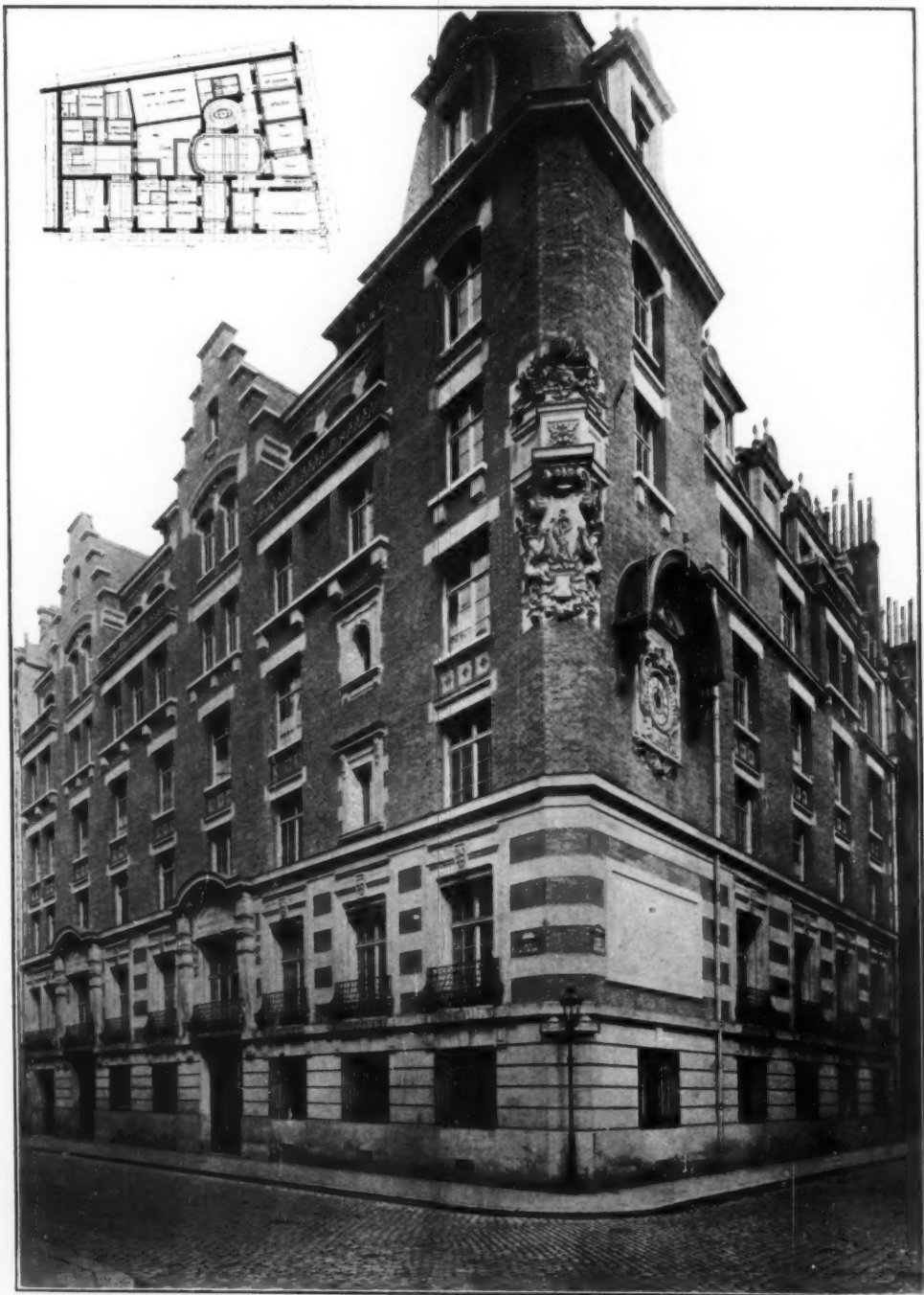




Paris.

BANKING HOUSE FOR LOUIS DREYFUS & CIE.

H. P. Nénot, Architect.



Paris.

OFFICES OF INTERNATIONAL SLEEPING CAR CO.

H. P. Nénot, Architect.

## Utilitarian Architecture at Chicago

### II.

It was said in part first, which appeared in the February issue of the *Architectural Record*, that there are still those who adhere to the "precedents"—that is, precedents in matters of design found in the historical styles—and still have done much useful work in which the old predilection is seen. It was also said that their work in this field is noted for its sobriety and a strict regard for the value of good, but plain, materials and admirable proportions. The generally prevalent severe weather of the past winter has made it impossible to procure photographs for illustrations of this character. I am therefore compelled to illustrate only one of them, and as it answers the purpose, it can be said that it fairly shows the usual character of the design of the architect in question. Howard Van Doren Shaw is well known as having been from the commencement of his practice one of the most independent designers in this country. I know of no other building that he has designed which is not characterized by original thought and freedom from the conventional architectural precedents. However, the building of Ginn & Company at Chicago, which is the subject of the first illustration, is his own exceptional design. Why he has departed from his common practice in this instance need not trouble either the writer or the reader of these lines to know, and it is enough to realize that the building is a fact. This building is the western depository and warehouse of a large eastern publishing house, whose specialty is educational books. It is located on a secondary business street in an old residence district about two miles from the business center of Chicago. The material for the exterior, generally used on all four sides, is Purington paving brick, and all the remaining material seen in the illustration is Bedford (Indiana) limestone. No fictitious material representing stone is

used, hence it is an example of honest building throughout. It stands on a high base of stone. The first story is an arcade, both of windows and doors, and no other arches are used in the walls. The rustication is effected by introducing two courses of beveled bricks for each dark line, and the key stones do the real work for which they are intended. The only decoration is in four inserted carved stone medallions, two of which are used to carry lighting brackets for indicating the main entrance, and four others have devices emblematic of education and knowledge. A very plain cornice, without mouldings, surrounds the building at the second story floor line, above which are three stories of square headed windows. Above these is the main entablature of cut stone, consisting of architrave, frieze, cornice and blocking course. Under the cornice are brackets of very simple outline and the mouldings are entirely unconventional, merely suggesting classical sections. The cornice is of small projection, and the height of the whole entablature is regulated by the necessary quantity to carry it from the top of the fourth story windows above the roof. Emphasis is given to the principal front by advancing the center or, in reality, causing the two end bays to recede from the street line. This is for purely decorative purposes and makes possible the introduction of a colonnade, which is executed in brick, with stone capitals and bases, suggested—merely suggested—by the Roman Doric order. This and the introduction of modillions and cornices for the clubbed windows of the second and third stories of the two end bays, is the tribute paid by the designer to classical architecture. But observe how consistently he has done it. There are no projecting window caps for the three stories of windows included within the colonnade because the main entablature is over them. The cornices over the



FIG. 1. GINN &amp; COMPANY'S BUILDING.

H. V. D. Shaw, Architect.

Cottage Grove Avenue, Chicago.

clubbed windows are in those bays where the main entablature does not project from the wall, and it was not necessary to carry the cornices up to the fourth story because the windows there are so near to the main cornice. Hence the corning of the clubbed win-

am not defending his choice of that formula, but the rational way in which he has used it. He has not attempted to follow the accepted proportions of the Roman Doric order, because he was first bound by the necessity for certain dispositions of windows for lighting pur-



FIG. 2. THE LAKESIDE PRESS.

Dearborn and Polk Sts., Chicago.

H. V. D. Shaw, Architect.

dows in combination with the colonnade and projecting entablature constitute a correct architectural combination. And there was a *reason* for what the architect has done consistent with his desire to use a classical formula in the general treatment of the front. Understand, I

poses in a utilitarian building. But once having adopted this order as the basis of his design he has been consistent in following the accepted requirements of that order in general, and adopting a new system of proportions which are still satisfying to the eye, because they



do not militate against the purposes of the building. I have dwelt on this feature of the design because it shows that one whose practice is independent of

The brick laying of the colonnade is the most perfect I have ever seen. Of course a certain number of sizes of bricks had to be specially made. But



FIG. 3. THE PRINTERS BUILDING.

Chicago.

H. B. Wheelock, Architect.

classical formulae is as well fitted, if not better than others, to grapple with the problem of adopting a classical design to a utilitarian building, and carrying it out in an entirely independent manner.

with these the entasis, which is slight, was skillfully carried out, without requiring the relaying of any part. The columns are proportionately too long for the "order," but that is explained above.

Of a very different design is the "Lakeside Press," which is the subject of Fig. 2. This is the printing and binding establishment of R. R. Donnelly & Sons Company, located on next to the last lot at the south end of Dearborn street, opposite the Dearborn station of

the second story, though a small old building occupies the corner. The three fronts are identical except that the main entrance is on Dearborn street. The materials are also Purington paving brick, with Bedford (Indiana) limestone where stone was required. The bricks, as in

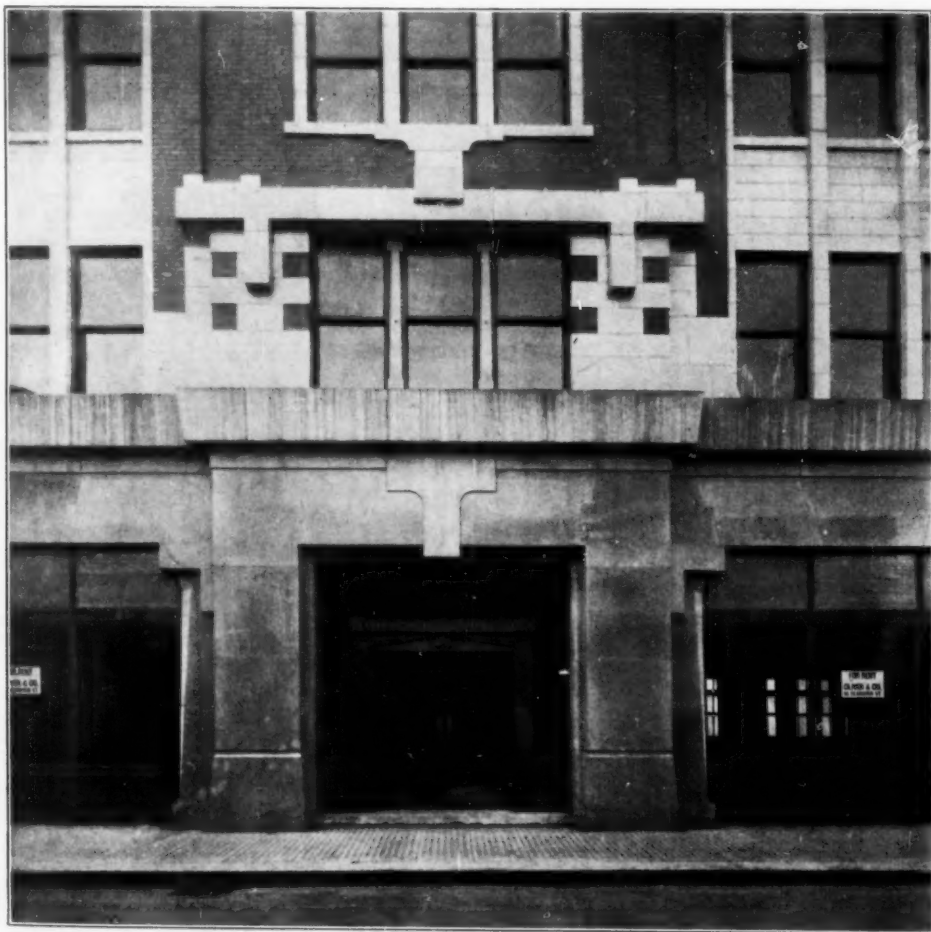


FIG. 4. THE PRINTERS BUILDING—MAIN ENTRANCE.

the Chicago & Western Indiana R. R. Company. It is also the work of Mr. Shaw and was built in two sections. In the first section Mr. Shaw was associated with S. A. Treat, but the exterior of the whole is Mr. Shaw's design. It fronts on two streets and the south end is finished in the same manner above

the Ginn building are laid with a half half inch hollow black joint. This building, as also the Ginn building, is of modern fireproof construction throughout, being constructed with steel frame and semi-porous hollow clay tiles. The Ginn building, however, being only four stories high, has solid brick exterior



FIG. 5. AMERICAN SNUFF CO.'S BUILDING.

Chicago.

Schmidt, Garden &amp; Martin, Architects.

walls. The Lakeside Press required different window treatment on different stories and this is well expressed on the exterior. On four stories the windows on the two street fronts occupy the entire space between the brick piers. Observe also how the double pitch of the comparatively flat roof is expressed on the south front.

A very recently constructed building of great size is shown in Figs. 3 and 4. This also was built for a printers' building and is so named, but it was erected as an investment, to be rented out, with power, to printers only. The Architect is Harry B. Wheelock. The material

of the first story is stone. Above it is of red pressed brick, and buff enameled terra cotta. The relative values of these materials in a color composition are best seen in Fig. 4, which is the main entrance. It has been impossible to obtain a representative photograph of the entire building, because the relation of the color of the brick to the enameled terra cotta is so much changed, the brick coming out too dark and the terra cotta too light in the print. This extreme contrast is also exaggerated by the use of a larger proportion of brick in facing the four angles of the building. There is absolutely no decoration



FIG. 6. THE AMERICAN SNUFF CO.'S BUILDING.

Entrance front on private street in the company's property.

Schmidt, Garden &amp; Martin, Architects.

on the exterior and straight lines have been used everywhere. The location is on Fifth avenue and Polk street, just outside of what was until now the limit of the wholesale district and near two large railway stations. It is of heavy mill construction interiorly and built to the limit of height allowed by the ordinances for a building of that character.

In the first part was shown the Montgomery Ward mail order building, lo-

ping platform for car lots. The roof over this platform is a slab of reinforced concrete suspended from the under side of girders which support the second floor. The opposite side of the building, which is the entrance front—though all sides are practically fronts—is shown in Fig. 6. Here is not only the entrance to the offices, but the shipping platform for teams and the employees' entrance. These are shown in detail in Figs. 7 and



FIG. 7. THE AMERICAN SNUFF CO.'S BUILDING.  
Shipping platform for city trade.

cated on the north branch of the Chicago River, by Richard E. Schmidt, Garden and Martin. Here is seen a strictly manufacturing building (Fig. 5) by the same architects. It is also located on the outskirts of the city. This shows the working side of the American Snuff Company's building, which is traversed by a switch track. The greater part of the length of this, the north side, is occupied in the first story by the ship-

ping platform for car lots. The roof over this platform is a slab of reinforced concrete suspended from the under side of girders which support the second floor. The opposite side of the building, which is the entrance front—though all sides are practically fronts—is shown in Fig. 6. Here is not only the entrance to the offices, but the shipping platform for teams and the employees' entrance. These are shown in detail in Figs. 7 and

wall up to the fourth floor, where their load carrying function ends. The relation of the office entrance to the shipping platform for teams, the employees' entrance, the stairtower for the latter and the elevator tower, is well expressed on the exterior. The stairway and the elevator are kept outside of the wall of the

formed in position. The water table—which in the illustration is covered with snow—the window sills throughout and the sill course of the first story windows are of stone, buff Bedford, Indiana limestone; but all the sill courses of the second and third stories are formed with projecting brick headers. The sill course



FIG. 8. THE AMERICAN SNUFF CO.'S BUILDING.  
Office entrance next to shipping platform.

building, the platform is reached by a side door from the office part, and the office entrance is emphasized only sufficiently for its purpose. The door trimming is of stone, because concrete could not be used for the rapid construction required for the walls. But the steps, platform and hitching posts for the entrance are all made of concrete

of the fourth story is of stone, and forms projecting caps for the buttresses. The coping of all the walls is of concrete made in position with a projection of one foot. Projecting courses of brick headers follow the lines of the iron lintels over all the windows, and a similar projection is given to the brick on the sides of all the windows. These are bonded



in the window jambs, which are three courses deep. Attention is called to the construction of the hood over the shipping platform. This is a slab of reinforced concrete of considerable projection, and it is supported by two heavy I-beams, covered with concrete. Fig. 8 shows how carefully the paving bricks are laid to produce an effect. They are slightly beveled at the horizontal joints, but square edged at the butt joints. The horizontal joints are scraped out, thus being in shadow and giving strong horizontal lines when the sun is high. But the vertical joints are struck smooth. Only the ordinary brick mortar was used and no attempt was made to color it. The interior construction throughout is of reinforced concrete, the girders run in both directions, and the squares are filled with slabs supported on all four sides.

It would be difficult to find a utilitarian building that shows better than this what it is made of and which so clearly expresses its functions and purposes. It is the result of careful and conscientious study, to produce the best results with the most servicable and economical materials. It illustrates perhaps better than any of the other examples cited the principle embodied in the recent movement by the best informed architects of

Chicago, for a rational and constructive architecture in a class of buildings in which elaboration for the sake of ornament would be entirely out of place.

In part one allusion was made to the "Central Manufacturing District," in the southwestern part of the City of Chicago, a property half a mile square, which is being built up rapidly from designs by Alfred S. Alschuler. The largest building yet erected on it is that of the Pfannmueller Engineering Company, shown in Fig. 9. It is a machinery exhibition warehouse and is built with reinforced concrete floors and roof. The exterior walls are of paving brick trimmed with limestone. The roof over the central portion is covered with cement tiles. The building covers 100 by 400 feet of ground. The central section is 50 ft. wide with a 30-ton traveling electric crane running the entire length, except where the offices occupy the front part. There is a gallery at the second floor on each side of the central hall which is cantilevered beyond the supporting columns over into the central area, in order that the traveling crane may handle materials directly from the gallery. The offices occupy the second and third floors next to the front wall.

*Peter B. Wight.*

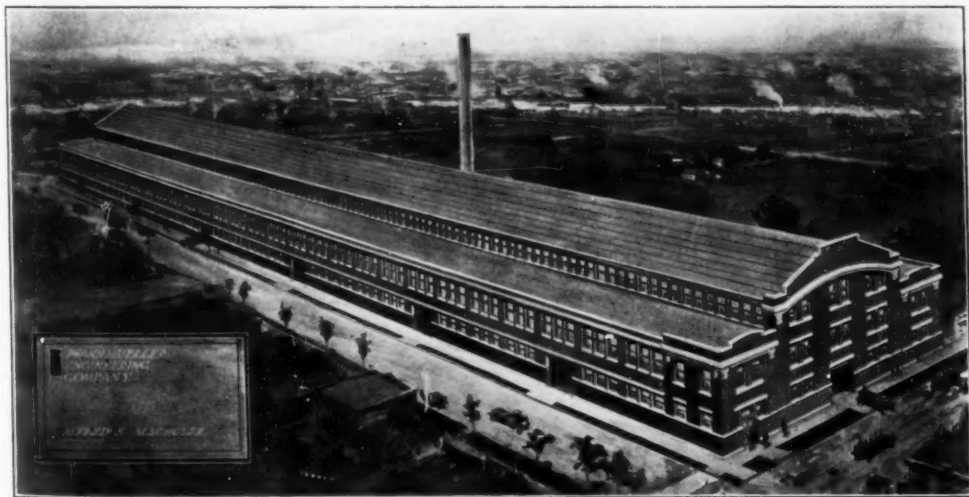


FIG. 9. PFANNMUELLER ENGINEERING CO.'S BUILDING.  
Central Manufacturing District, Chicago. Alfred S. Alschuler, Architect.

# The Evolution of Architectural Ornament

## I.

### INTRODUCTION

All architects who are accustomed to use ornamental detail for the enrichment of their buildings must have been struck with the wonderful persistence of certain types, and must have become interested in considering their origin and the gradual changes which they have undergone from time to time. In fact, without this interest being aroused it is almost impossible for them to design their own ornament in accordance with the general character of their buildings, or with any sense of development. They are likely to become mere copyists, or else blunderers in the general scheme of evolution which is still persisting as it has done from the earliest times. This interest in ornament is, too, not merely confined to architects, but involves all who enter the field of decorative design, whether their work lies in connection with buildings or with jewelry, with dress or even with china and glass.

There are several methods of dealing with the subject which might be adopted. It would be possible to treat it historically, period by period or country by country, considering one architectural phase or style at a time, and treating simultaneously with all the various types of ornament employed during the same architectural epoch. If the inten-

tion were to produce mere stylists or to encourage the designers of the present day to work as archæological copyists, at one time as classicists and another time as Goths, this would be the right system to adopt. The present tendency in ornament is, however, not to conform so rigidly as this to the precepts laid down by our remote forefathers, but to develop and if possible to originate. If we are to do this successfully, we must bear in mind how development has proceeded in the past, and it is consequently thought better, under the present circumstances, to adopt a classification by means of which it may be attempted to trace each of the principal types of ornament in sequence. It is intended therefore to commence with ornament which has a foliage basis, dealing in turn with the anthemion, the acanthus, and the miscellaneous ornaments of foliage derivation of the Classic and Gothic schools, including all which were originally derived from foliage even though they have no apparent connection with it now. Subsequently, ornament with a linear basis and also that with an animal basis shall come in for similar treatment, combinations of types being left for consideration at the conclusion of the series of articles of which this is to be the first.

### Ornament With a Foliage Basis—The Anthemion

No architectural ornament has held its own more consistently than the anthemion. We can trace its origin back almost to the beginning of architecture; we can also trace its use through almost all successive periods up to the present day in one form or another, varying from time to time, changing as architectural styles have changed, but always with essentially the same underlying motive—a

flower of several branches, sometimes dissociated and sometimes connected with similar flowers or slight variants of the same. Many people hold that its origin is to be found in the lotus flower of the Egyptians. The only difficulty in accepting this lies in the fact that the early Egyptian representations are not carved architectural ornaments but mere painted enrichments whose date it is al-

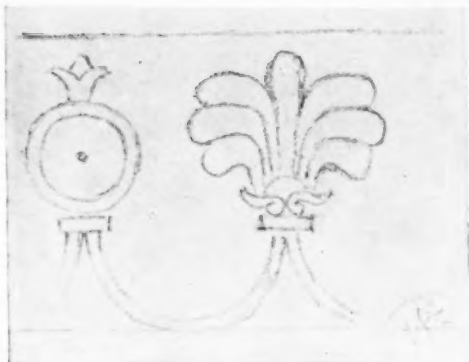


Fig. 1. Incised Anthemion on ivory from Nimrod C. 850-700 B. C.

most impossible to determine with certainty. In many cases painted decoration has been applied to earlier buildings, and the date is consequently a matter of doubt. The lotus certainly does occur in Egyptian ornament, or in that which is based upon the Egyptian, very much in the anthemion form. It is not, however, the only possible derivation for there is a good deal to be said for the theory that all the Grecian carved enrichments have an eastern rather than a southern origin—that they came originally from Asia Minor rather than from Africa. On the other hand, there is a possibility that the dwellers in Phoenicia and Assyria in turn derived their ornaments from Egyptian sources. There is a case of small ivory carvings in the Assyrian gallery of the British Museum which are labelled as being Phoenician, but of Egyptian design, their date being given at anything between 900 and 750 B. C. These small ivories are of high

archæological value, for they contain the earliest representations in actual carving which we possess of several forms of ornament. The anthemion occurs again and again, a somewhat common form being that shown in Fig. 1, which is a considerably enlarged representation of the original. Here the anthemion is shown as a seven branched flower rising from a curiously shaped bud and connected by a semicircular stem with an



Fig. 3. Range of trees, from a representation of the building of Sennacherib's Palace at Kouyunjik in the British Museum.



Fig. 4. Assyrian Wall Slab.  
(British Museum.)



Fig. 2. Palm trees on wall slab from Sennacherib's Palace, Kouyunjik.  
(British Museum.)

alternating ornament which consists of a circle crowned by a trefoiled leaf. In this particular case the Anthemion does not suggest the Lotus, but is much more indicative of the palm tree, particularly to those who carefully observe the many wall slabs in alabaster which line the Assyrian galleries of the museum, as at one time they lined the rooms of the great palaces at Korsabad, Kouyunjik and Nineveh. Of these, the British

Museum possesses a most remarkable series, such as cannot be found elsewhere, all being originals. Unfortunately there seems to be no means of determining their sequence in point of date, but it is noticeable that the palm and the fir tree occur constantly, in some cases irregularly, but often arranged to represent rows along the sides of country roads or river banks, and so having



Fig. 5. Fragment of Assyrian Sacred Tree, about 830 B. C. (British Museum.)

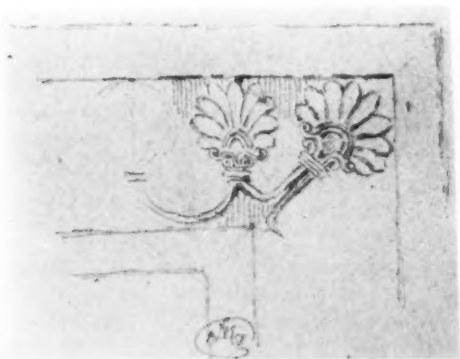


Fig. 6. Assyrian Terra Cotta floor in stamped relief (low).

a purely decorative appearance, as for instance, in the range of palm trees of which two are illustrated in Fig. 2. It is impossible to turn one's eye from these wall slabs to the ivory ornaments in the neighboring case (depicted in Fig. 1) without seeing that the anthemion may very possibly have been derived from the palm, at any rate so far as one of its common forms, that known as the

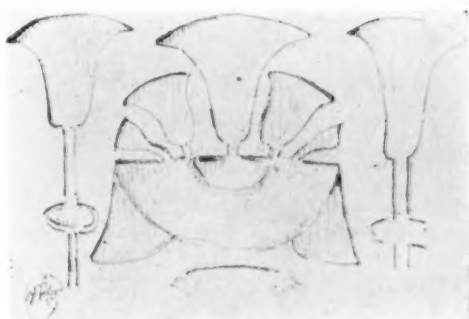


Fig. 7. Lotus Carving, bas relief from the tomb of Mes, a Ka priest, Egyptian XIXth Dynasty. From Memphis. (British Museum.)

"palmette," is concerned, whose leaves branch outwardly. Had this ornament originated certainly with the lotus, as many writers have thought, the leaves would have been less curved and more sharply pointed, for the lotus flower is always represented with a sharp point and not with a rounded end.

The other principal variation of the anthemion known as the "honeysuckle," whose leaves, or if we prefer to call them so, whose petals curve inwards instead of outwards, has been said to be derived from the lotus bud not yet quite open, just as the palmette has been traced to the open lotus flower. Again this is a plausible explanation of its origin—probably in neither case will it ever be proved whether it is the true one—but again turning to the Assyrian



Fig. 8. Crude representation of Lotus bud and flower on incised slab of the Egyptian Ptolemaic period. (British Museum.)



Fig. 9. Gilded Enrichment of pediment cymatium, Temple at Aegina. From cast in British Museum.

sculptured wall slabs in the British Museum ranges of trees are found from which the so-called honeysuckle ornament might very well have been derived. In this case they are fir trees, a most striking example being illustrated in Fig. 3, with trees of large and small size alternating. This particular type of the anthemion is, however, much more difficult to trace, as fewer examples exist of it in its perfected ornamental form

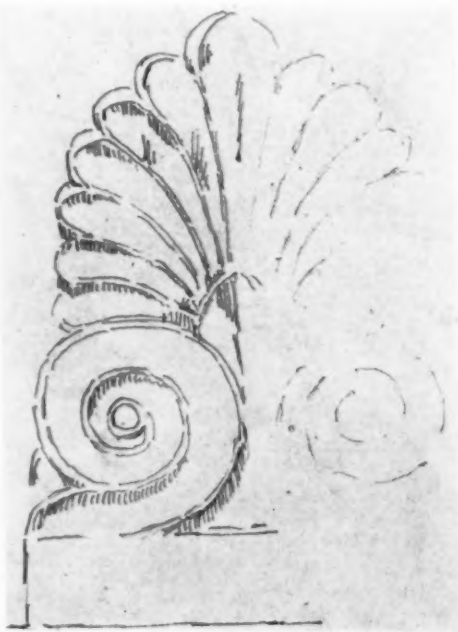


Fig. 10. Antefixial Ornament, Parthenon. (British Museum.)

previous to the Grecian epoch. It does not occur either upon the ivories already mentioned or elsewhere in Phoenician or Assyrian carvings otherwise than as a range of somewhat conventionalized trees. The appearance of a distinctly decorative anthemion is perhaps first indicated in the Assyrian "sacred tree," as shown in the photograph, Fig. 4, of which there are several examples in the Museum. Though their date is indeterminate within some centuries between 900 and 600 B. C., they have all the appearance, so far as one can judge from the character of the carvings, of being early rather than late. The anthemion occurs here as a flower at the terminals of a stem, which twist and turn in a decorative manner almost as if they were plaited, having, in fact, some resemblance to the guilloche plait to which reference will have to be made subsequently. The flowers are all of them seven-leaved and are more analogous to the palm tree in the manner in which they spread than to the incised ivory carvings shown in Fig. 1. An enlarged detail of a portion of Fig. 4 is shown in Fig. 5, it being exceedingly difficult to represent clearly by means of photography an ornament in such extremely low relief as this is. Whatever we trace it back to, however, there is no question at all about the occurrence of the anthemion here in a decorative sense.

This is even more apparent in certain floor slabs of terra-cotta, of which the British Museum possesses several fragments. In all cases these appear to represent carpets, for their borders have fringes. These fringes, it may be noted, consist of alternate lotus flowers and buds, and give no sign in themselves of originating the anthemion, which occurs on several examples as one of the patterns upon the floor itself, as a continuous unvaried repeat merely adapted to the angle where an angle occurs. This particular ornament is shown in Fig. 6, but instead of containing seven leaves, each anthemion now contains nine, showing that even during the Assyrian period there was no absolute rule as to the number of petals. The whole character of the ornament is otherwise precisely





Fig. 11. An akroterion, possibly from Eleusis, now in the British Museum.

that of the anthemion upon the sacred tree, while the multiplication of leaves suggests the palm which, as already illustrated in Fig. 2, varied in different examples. If the necessary trouble be taken to count the leaves in Fig. 2, it will be found that one tree carries ten, while the other bears eleven. In the ornament shown in Fig. 5 there is a calix which seems to be developed from the elementary calix in Fig. 1, from which the leaves spring, while the single horizontal band or tie round the stem beneath the calix on the ivory has developed into a triple band.

Returning to the possibility of the anthemion having been derived from the lotus one finds this to a certain extent borne out by crudely incised ornamentations such as that shown in Fig. 7,

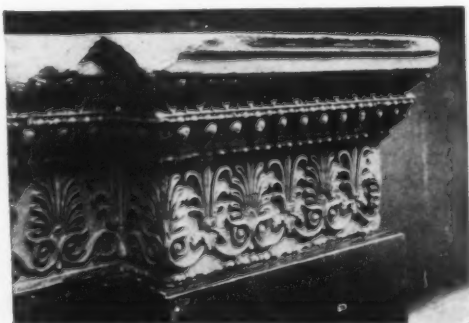


Fig. 13. Cella Frieze of the Erechtheion, Athens. (British Museum.)

which belongs to the period of the Egyptian nineteenth dynasty, probably about 1300 B. C. It is thus greatly anterior to any of the Assyrian or Phœnician carvings to which reference has already been made. It shows the lotus



Fig. 12. Console, North Portico of the Erechtheion, Athens. (From a cast in the British Museum.)

flower both singly and in groups, at least suggesting the radial anthemion arrangement and opening up considerable possibilities of conventional design. Something much more like the honeysuckle



Fig. 14. Enrichment of Cymatium (cyma recta)  
Mausoleum, Halicarnassos.  
(British Museum.)

variation of the anthemion is shown in Fig. 8, which is also a drawing of an exceedingly crudely incised ornamentation, Egyptian, but belonging to the



Fig. 15. Cymatium Enrichment, Temple of  
Minerva Polias, Priene.  
(British Museum.)

Ptolemaic period, and probably executed no further back than 250 B. C., if so far. Its date is consequently subsequent to the whole of the great Grecian period, but it is obviously a copy, as much of the work of that date was, of previous Egyptian ornament of a thousand years earlier, and so far may reasonably be considered as a prototype and not a sequence of the anthemion.

The next definite step forward seems to be the appearance of alternating honeysuckle and palmette anthemion connected by scrolls in painted or gilded enrichments, such as that illustrated in Fig. 9, from the British Museum cast of the pediment cymatium of the Temple at Aljira. The honeysuckle form seems to indicate a lotus bud origin, and consists of five petals only, while the palmette consists of seven petals and very closely indeed follows the suggestion of the anthemion on the Assyrian sacred tree and seems almost unquestionably to have a palmette origin.

Be this as it may—for all of these questions of origin are of little practical moment to the modern designer, so long as he recognizes a type and understands how that type has developed—the various phases of this ornament already illustrated are sufficiently numerous to give plenty of suggestion to subsequent workers. Clearly the Greeks did not originate the Order, but with their extraordinary skill and sense of refined outline they developed it and produced a considerable number of variants of it, the majority of which are of extreme beauty in themselves, while they are invariably well suited to the positions which they occupy. This may in particular be said of the antefixial ornaments which were used along the eaves of buildings of the Doric Order to act as stops to the tiles. The best known example is that illustrated in Fig. 10, being that from the Parthenon at Athens. These antefixi, being independent ornaments, were naturally unconnected, and much skill is shown in the treatment of the scroll to make it a natural termination and support to the branching foliage which, it may be noted, now consists of no less than thirteen petals of the pal-



Fig. 16. Square capital from Temple of Minerva Polias at Priene. (British Museum.)

mette type. The date of this is probably about 432 B. C., by which time Greek ornamental forms had become thoroughly established. Carved in marble, perhaps the most perfect of all material, and not incised in lime-stone or granite as was Egyptian work, or modelled in extremely low relief in alabaster of large crystals like the Assyrian, it is no surprise to find that the workmanship was of the highest possible quality and the modelling unexcelled in its combination of simplicity with sharpness, yet without extravagance of emphasis, and with perfect adaptation of any surface curves to the position which the work should occupy in relation to the eye.

Fig. 11 perhaps illustrates better the perfection of this work. It shows a further development of the anthemion ornament upon an unusually large scale. At one time the original of this was labelled in the British Museum, where it occupied a place among the Elgin



Fig. 18. A Roman variant of the Anthemion from the base of a Candelabrum in the British Museum.

marbles, as an antefixial ornament from Eleusis, but its great size suggests that it was more probably an akroterion or pediment terminal, though, in fact, little is known about it. Many similar ornaments are to be found as the terminals of Steles or sepulchral monuments, which invariably, as in this case, show the introduction of the acanthus leaf either in substitution for the scrolls or at their junction with the petals. It may be noted that when the anthemion is used as an isolated ornament, as in this



Fig. 17. Anthemion band on late Roman column, in the Victoria and Albert Museum.

case, it almost invariably takes the palmette form, at any rate in Grecian work, except when it is introduced to hide the junction between the circular band of egg and tongue enrichment and the volutes of an Ionic capital.

Another example of its use in isolated palmette form occurs in the exceptional console—which flanked the door of the north portico of the Erechtheion, illustrated in Fig. 12. Possibly the most perfect examples of the anthemion enrichment anywhere in existence are

those which occur in the frieze on the cella wall of the Erechtheion (Fig. 13), a considerable fragment of which is in the British Museum. The palmettes consist of eleven petals each, and the honeysuckles of five true anthemion petals in addition to two lower similarly curving leaves from the acanthus. The scrolls are differently connected along the main face and across the face of the anta, where the enrichments are comparatively crowded in order to properly fill the space they have to occupy. The subtle nature of the surface curvature will be recognized in the photograph, together with the extreme precision of



Fig. 19. Fragment of Enrichment from Base of a Roman Candelabrum. (Louvre, Paris.)

the carving and generally marvelous workmanship. The work was probably executed within a very short period of that upon the Parthenon, though the exact date is not known. It is clear, however, that by this time the motive had become thoroughly well recognized, and that any further changes partake only of the character of variants and gradual development according to the style and country where it is produced. There are many such variations, but attention need now be only called to some of the more prominent forms, as indicating possibilities for the future. The enrichments of the cymatium which



Fig. 20. Capital on West front, Notre Dame, Poitiers.

crowned the Mausoleum at Halicarnassos, for instance, built about 350 B. C., shows alternately three petalled honeysuckles and eight-petalled palmettes, these being split into two halves of four petals each, as shown in Fig. 14, and, of course, without a central petal. Each of these forms was to have considerable influence upon the future changes which were to take place in the ornament. The reduction of the petals to three in the one case suggests the fleur-de-lis of a much later time, while the halving of the



Fig. 21. Fragment of Capital in the Chapel of the Pyx, Westminster Abbey. (C. 1065 A. D.)

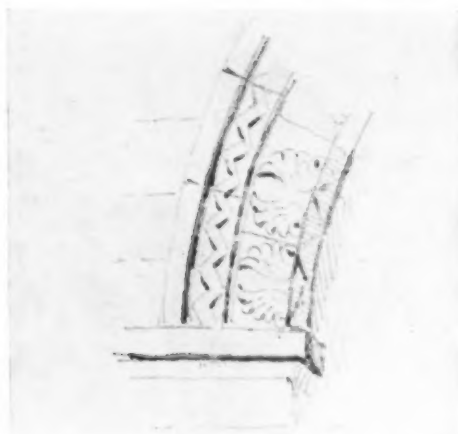


Fig. 22. Arch, Malmesbury Church, Wiltshire.

palmette was a device frequently used in many subsequent periods, and even also by the Greeks, as is indicated in Fig. 15, which shows a small portion of the cymatium enrichment of the Temple of Minerva Polias at Priene, which was one of the later Grecian temples. An example of the anthemion, used both as a whole and as a half, occurs upon the rare square capital from the same temple, shown in Fig. 16. This is carved in a softer stone than marble, and is, consequently, coarse in execution, while the whole character of the work is indicative of Assyrian influence, which seems to have dominated the ornamenta-

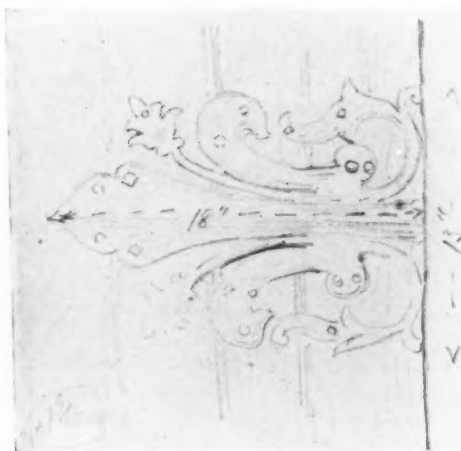


Fig. 24. Wrought Iron Hinge, West door, Antwerp Cathedral.

tion of the buildings of the Greek Ionic Order to so very large an extent. An example of the anthemion, purely Greek in character, has been found as far south and east as at Allahabad, in India, local archæologists dating its execution to 254 B. C.

The Romans adopted the anthemion and all other forms of enrichments common to the Greeks, introducing into it their own characteristics, and adding numerous variants. Possibly the most common of these is that shown in Fig. 17, in which each alternate anthemion



Fig. 23. Capital, Street Colonnade, Maison Historique, Beauvais.  
(A. D. 1314.)

in the bond band round a column is reversed, the first ornament being upright and the next pointing downwards. It is not a particularly elegant form of ornaments, for the connecting scroll is exceedingly difficult to design gracefully under these circumstances. The form shown in Fig. 18 is more pleasing, though less true to the original idea. The palmette in this is not greatly different from the Greek form, but the honeysuckle is something fresh, like one flower rising out of another, with the leaves curled over at the tip. Between each



palmette and honeysuckle there is another arrangement of three leaves, obviously derived from the same source. The workmanship is by no means so perfect as in the best Greek period, and the leaves partake of a curious surface crinkle or wave, the effect of which is to destroy the purity of outline, without adding anything commensurate in the way of surface texture. This tendency to elaboration of detail is shown to a still greater extent in Fig. 19, in which the leaves of the anthemion are serrated, besides being given surface wave. The origin has evidently been forgotten altogether, the designer's sole object being to increase the amount of enrichment which he could crowd into a given space and on to a given ornament. The acanthus leaf is introduced freely into the scroll, and so are natural flowers and buds.

It is strange that, although the Byzantine style was derived partially from Greek and partially from Roman sources, the anthemion ornament seems rarely to have been used where it flourished. Possibly this is to be accounted for by the fact that the enrichments, in such places as those in which the anthemion would have been employed in true classic work, were now almost invariably of mosaic or color. On the other hand, its presence is found in the Byzantine derived work forming the Romanesque, both of southern France and of the Rhine, though it occurs in crude form crudely carved, not as in the earlier work appearing to stand out from a level background, but generally with a background of varying depth sunk below the level of the face, as is commonly the case with all ornament of the period. The examples, too, are scattered and apparently accidental, and they occur in positions where they are unexpected, as, for example, on the cyma recta moulding of the abacus of a capital (as shown in Fig. 20) from the front of one of the most richly carved churches of mid-France. Each anthemion is, in this case, enclosed as in a frame by continuing the connecting scroll upwards and inserting leaves between the scrolls. Even such examples as this are rare, and the



Fig. 25. Font in Ufford Church, Suffolk.

date, as a rule, uncertain; but we do know the date of the very curious form which occurs as a band on one of the capitals in the Chapel of the Pyx, at Westminster Abbey, recently exposed to public view, and illustrated in Fig. 21. This must have been carved just previously to the Conquest of England by Duke William—that is, about the year 1065. Each anthemion springs from a cable necking, the only connection between them being made by means of dropping leaf buds. The ornaments, as it appears here, seems to have been only faintly suggested by the true originals;



Fig. 26. Burgundian Woodwork now in Patton Church, Surrey.

a mere tradition of a branching leaf enrichment having apparently traveled across from the Continent to England at this time. A good deal of nonsense seems to have been talked about the early Norman enrichments having been

where any attempt at detail has been made. A much more nearly correct representation of the original anthemion appears on an arch in Malmesbury Church, illustrated in Fig. 22, the form being that in which it occurred long be-



FIG. 27. CHIMNEYS, CHÂTEAU DE BLOIS.

invariably carved with rough tools, such as the axe, yet it is impossible to look at this example without coming to the conclusion that something in the nature of a chisel must have been employed; and it is the same with a great deal more of the characteristic work of the period

fore on the mausoleum at Halicarnassos. The date of this is probably about 1130 A. D.

With the death of the Romanesque styles, the anthemion proper disappeared, but it was replaced in Gothic times by a three-leaved flower known

as the fleur-de-lis, which had an armorial significance. It, consequently appears, as a rule, in isolation, as on the face of the column in front of the Maison Historique, at Beauvais (Fig. 23); but the capital of this same column also shows a series of connected fleur-de-lis very closely resembling the true anthemion enrichment, but treated in a Gothic spirit, and with a Gothic surrounding. The capital is quite exceptional, and as beautiful as it is rare. The occurrence of the fleur-de-lis with any suggestion of five leaves is almost unknown, but examples are to be found. There are, for instance, some on the encaustic tiles amongst those which form the pavement of the old undercroft to the monks' dormitory at Westminster, probably belonging to the fourteenth century. Something of the same sort, in fact, as nearly alike as the difference of material would permit, is to be seen on the large wrought-iron hinges of the west door of Antwerp Cathedral, illustrated in Fig. 24, those now existing being replicas of the originals, also probably made about the fourteenth century. It will be noticed that small flowers rise between the central and outer leaves of the fleur-de-lis, giving some idea of a five-leaved anthemion. Whether there was any connection with the classic anthemion is however extremely doubtful; it is more a revival of a type than either a survival or continuation, and that because it is itself a natural type to be evolved. In later Gothic work it appears more frequently, particularly in wood cresting, as upon the cover of the font in Ufford Church, Suffolk, shown in Fig. 25. This, again, is a replica of older work, though both the font and the greater part of the cover belong to the fifteenth century, the cover being far the handsomest and largest in England, extending right up to the church roof. The anthemion cresting here has little resemblance to the fleur-de-lis, and alternates with the well-known straight outlined leaf cresting of its date, the whole being conceived in a purely Gothic spirit.

The fleur-de-lis is also by no means infrequently met with as the central mo-



Fig. 28. Pedestal of Lion in front of Strozzi Palace, Florence.

tive of tracery, both in England and in Belgium, during the fourteenth century, and later on in the flamboyant work of France. It is found in large stone windows and also in small wood tracery panels, such as the Burgundian example, of which a photograph is given in Fig. 26.

In France, the fleur-de-lis was retained for a long period as a symbol of royalty, and is frequently found carved upon buildings in the manner shown in Fig. 27, which illustrates some of the chimneys of the Château de Blois,



Fig. 29. Low relief on flat, Bologna (Full size.)

there being modern restorations of work done about the year 1525, in the reign of François I. At this time the feeling of the Renaissance was permeating French architecture, and with the Renaissance there had come a revival of the

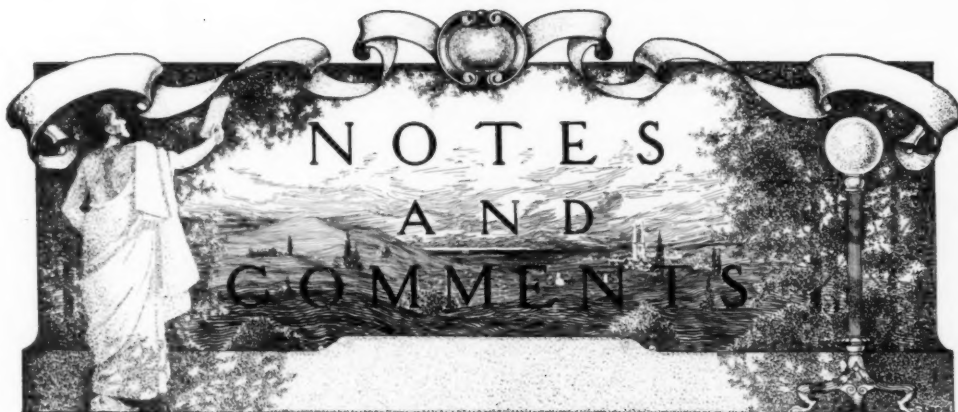


Fig. 30. A Florentine fountain.  
(Victoria and Albert Museum.)

use of all classic ornaments in their original classic manner, so that it is quite natural to find that the fleur-de-lis now partakes more of the true anthemion character than it did during the long Gothic period.

A great deal of the Renaissance work of all countries has been in absolute copyism, particularly in matters of detail, of the work of Greece and Rome, yet fresh variants have been devised from time to time of all the principal ornaments. This was particularly the case in the best period of the Renaissance in Italy. Figs. 28 and 29 show two examples from Florence, differing considerably from one another, yet both founded upon the Roman. Fig. 28 shows the anthemion as a three-leaved flower of the lotus character, but reversed in the common Roman manner, as already indicated in Fig. 17. The outlining, however, is perfectly unserrated, and the surface plain. Fig. 29 shows also an example of reversal, but the anthemion is of a more purely Roman type, with serrated edges, while the scroll consists of foliage, the extreme leaf of which is turned over. There is also surface curvature. These two examples indicate that different hands and minds were at work, not slavishly copying the old, but merely adopting its suggestions in the spirit of the modern times. This, too, is the lesson to be learnt from the Florentine wall fountain illustrated in Fig. 30, much of the carved ornament upon which is of a character with which we shall deal subsequently, although a somewhat large anthemion enrichment occurs near the top, and a smaller one over the child's face, from the mouth of which the water spouts. Both of these indicate that the carving projects from a leveled surface as a background, and is itself of varying depth. The lower anthemion is almost classic in its type, but the upper one is naturalesque, instead of representing either the palm, the honeysuckle or the lotus; its central frond or leaf is an ear of barley; the leaves are barley leaves, and two poppies branch out on either side.

G. A. T. Middleton, A. R. I. B. A.  
Past Vice-President of the Society of  
Architects, England.



**THE  
ARCHITECTURAL LEAGUE  
EXHIBITION  
IN NEW YORK**

The Architectural League has hardly given an exhibition of larger and more varied interest than that of 1910. The variety in fact secured by making of it an exhibition of the "allied arts." To promote the alliance between arts among which there has for generations been everywhere, and in this country more than any other, "an harsh divorce," is one of the most honorable of the achievements by which the League has entitled itself to the public gratitude. It is to be noted, of course, that, to be effective, the alliance must be among arts which are properly interdependent, and must observe the Horatian precept of joining only like with like. The present writer recalls how immensely tickled he was, on the occasion of his first visit to Paris, by the ingenuity of the tenant of a small Parisian shop. The entire "devanture" cannot have been more than a dozen feet wide. Yet in this narrow space there was a door in the middle and a show window on each side, one exhibiting photographs and the other sheet music, while above was a gorgeous gilt inscription, "Alliance des Arts," which the proud proprietor doubtless viewed with as much complacency as Cesar Elrotteau the romantic title of his new cosmetic. The presentment was more ticklesome than edifying, since no man could tell what affinities existed between the particular "allied arts" in question. And not all architecture, sculpture and painting go together. A mediaeval cathedral, indeed, in its structure, its carving and its

stained glass combined all three in the greatest perfection that any one of them had then been enabled to attain. The best and most ornate of modern buildings fall very far short of the closeness of that alliance. A generation ago the sensitive but untraveled American could form no conception of the effect of a public building thoroughly and systematically decorated with the works of the sister arts. The Capitol at Washington was the only attempt in that direction, and Trumbull's portraiture and Brumidi's allegories did not go very far towards realizing the ideal. Even Greenough and Crawford "left to desire." Not until the Chicago Fair was the attempt systematically made to enhance the effect of architectural design by the invocation, exteriorly and interiorly, of sculpture and painting. The various crudities and failures incidental to a first attempt could very readily be forgiven in view of the fact that this was a first attempt, in view also of the great and immediate popular success of the total effect. Then came the Congressional Library, which had the added attraction and promise that it was a permanent and a government work, and not, like the Chicago fair, a sporadic effort on the part of "cultured" citizens. Sculpture and painting were both, on the whole, better done at Washington than they had been at Chicago, the painting better done than the sculpture. But the "object-lesson" was even more impressively inculcated in the permanent government building than in the transient glories of the World's Fair. Every visitor "took it in." The Architectural League has fulfilled a public want in appreciating, and



endeavoring to appease, a public demand with the initiation of which it had, and could have had, nothing to do. Let alone that the Architectural League has made it impossible that any other popular exhibition should be held of architecture, disjoined from sculpture and painting—and this negative service is of high positive value—it has accustomed the New York public to look, in an elaborate architectural work, for a project of which the inherent and necessary architectural effects of what Fergusson calls the "technic art" of architecture are expounded and enhanced by those of what the same authority calls the "phonetic arts" of

place, but that the "spirit" of the allied artist must be loyalty

To that it works in, like the dyer's subdued hand.

For a sculptor or a painter to have always with him the notion that his work must not only be associated with but must "fit" a work of architecture is a most wholesome discipline. He must become "decorative" even in despite of himself, though, of course, his work is the most agreeable when he does not have to do himself any violence. The elicitation of such a beautiful decorative talent as that of Mr. Blashfield, to take one example, or of Mr. Maynard, to take a very



CITY HALL.

Portland, Maine.

Carrère & Hastings, } Architects.  
Calvin & Stevens, }

painting and sculpture. In how many ways is this "object-lesson" useful? In the first place, it stimulates the private owner to make of his "swell" house an integral thing instead of an assemblage, though one cannot name the billionaire who has fully learned and applied this lesson, and there is an opportunity still offered to the billionaire, "with an honest purpose struggling in him," as Carlyle has it, who shall invoke the "allied arts" to do him a residence. In the second place, it affects most favorably the allied artists. For, in the work of the "Alliance des Arts," it is manifest that "easel painting," for example, and "independent sculpture," for example, have no

different example, would of itself go far to justify the association of artists in the Chicago Fair or in the Congressional Library.

"They order these matters" so much "better in France," that it is neither remarkable nor blameworthy that the first effect of our first essays in the association of artists in public works, as they coincided in time with the return of American students of architecture from the Beaux Arts, should have been to "Frenchify" our architectural expression. Insomuch that, in architecture, it at one time seemed likely that, as the learned Doctor Johnson put it about language, we should be "reduced to babble a dialect of France." That would have been



New York City.

## THE NEW NORMAL COLLEGE BUILDING

C. B. J. Snyder, Architect.

as much as to own that we had nothing to say for ourselves. This is a confession that no American would be willing to make. We have something to say, and the best use of foreign culture is to enable the native to say it, to say it in a vernacular way and in such wise as to be "understood of the people." If, in this year of grace, we find a Parisian academic "project" submitted as the answer to an American requirement, we say with confidence that the youthful author cannot have been "back long." Only one of these projects, apparently, graces the present exhibition. And this lone project, for a "Palace of Social Functions" at the National Capital, though conceived and detailed and rendered in a skilful and knowing way which would have caused some of the weaker-minded among us to hail it as a revelation, say ten years ago, is relegated to gracing the basement wall. On the other hand the "Return of the Native," the Americanization of the graduate of Paris who has been "back long" shows itself in the recurrence of the returner to his American ideals. E. g., in the young enthusiasm of Messrs. Carrère and Hastings for the institution which has proved an alma mater to some American students and an *injusta norecca* to others, they did a City Hall for Paterson, N. J., a building which would have seemed entirely at home and in place, no doubt, in a French municipality of the magnitude of Paterson, but which was not at home and out of place in the Jersey town. Compare this exotic edifice with the design in this present exhibition by the same designers, now for a long time repatriated, for

the City Hall of Portland, Maine. This is a piece of homegrown and indigenous looking "Georgian" which "belongs" as perfectly as the smart and modest Patersonian edifice fails to belong. It belongs none the less for looking, in the comparison at least, a little dull. One can fancy Longfellow going



New South Reformed Church.  
Park Avenue, New York.  
Cram, Goodhue & Ferguson, Architects.

back to his native town and the home of his "Lost Youth," and finding this latest building entirely congruous with his youthful memories, entirely consonant with his strains:

Often in thought go up and down  
The pleasant streets of that dear old town,  
And my youth comes back to me.

whereas one would have sincerely to sympathize with the sensitive old Portlander who should upon his return find the City Hall of Paterson staring him in the face

old, repulsive public school buildings that they remember into the new and attractive public school buildings that they know has also, in this present exhibition, a project for a Normal College, for the city. He has abandoned the near-Gothic of the old building he is to supersede, in favor of a full-blown and colonnaded classic. His classic is quite the regular thing, quite one of the essays that, as Macaulay says about the couplets of eighteenth century English classic poetry, we no more admire a man for



RESTORATION OF FORT TICONDEROGA.

Alfred C. Bossom, Architect.

and violating all his memories and traditions. Let us hope we have outlived that particular Gallican phase, and that returning pupils of the Beaux Arts will hereafter conceive that what they have had a mission to bring back is not a "ready-made" French architecture, but the power of designing and developing a "custom-made" American architecture.

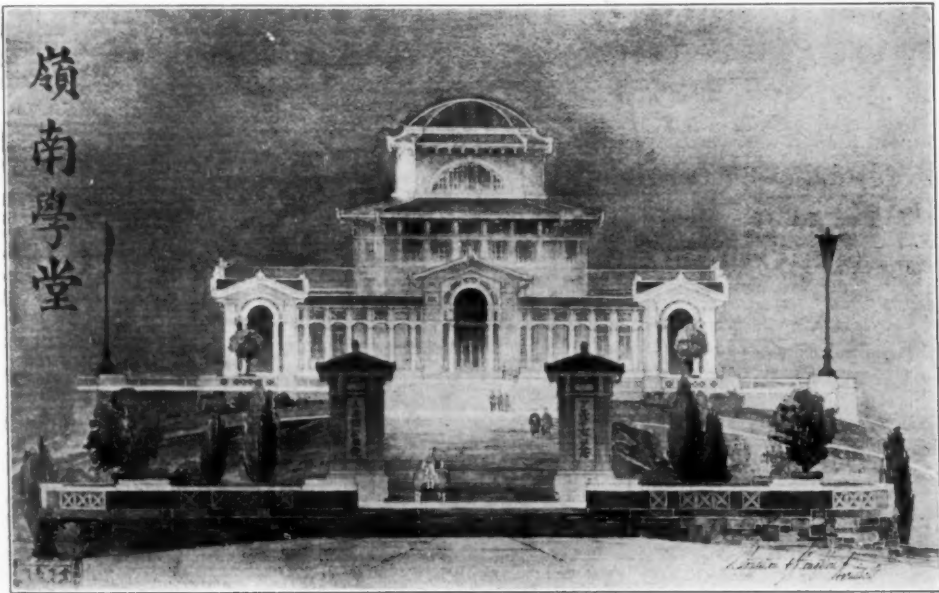
It is noteworthy that Mr. C. B. J. Snyder, the architect of the Board of Education, to whom all New Yorkers labor under such a burden of obligation in transforming the

being able to do than for being able to write his own name. It is "all right" from its own point of view, "very select and respectable and responsible." But one rather wishes that he had continued a tradition by recalling in his architecture that of the building he is invoked to supersede. The old Normal College, designed by A. J. Davis, one supposes, or possibly by James Renwick, has its comic aspects. It is not nearly as good as Mr. Renwick's design for the old C. C. N. Y. in Twenty-third street, which indeed wanted only being car-

ried out in more monumental material and with more refinement of detail, to be a very good building indeed. But the style of the old Normal College is good enough in itself, besides its locally traditional reference to the particular purpose, to have been adopted for the new one, and rendered as much better as the modern architect could manage, which we have every reason for supposing to be very much better indeed.

The "correlation of structure and function" which belong to the best architectural design may, in fact, become difficult to judge of with the increasing specialization of func-

and to such a church this architecture by no means seems the most forcible or natural expression. If, in fact, the building belongs to the Collegiate Reformed Church, we have to thank that venerable institution for adding a third ornament to the city to those it has already bestowed in Mr. Wheeler Smith's or rather Mr. Sandier's, brilliant and picturesque essay in French Gothic in Fifth avenue, and Mr. Gibson's interesting version, in West End avenue, of that masterpiece of the Dutch Renaissance of the sixteenth century, the old meat market in Haarlem. For specific traditional appropriateness, this lat-



LIBRARY, CANTON CHRISTIAN COLLEGE.

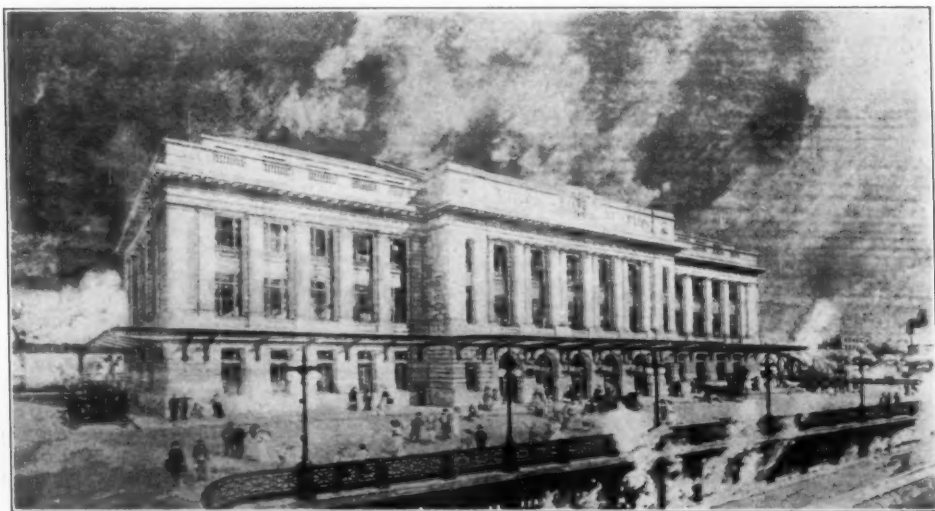
Canton, China.

Stoughton & Stoughton, Architects.

tion. Here, for example, is a very attractive ecclesiastical "proposition," very attractively presented by Messrs. Cram, Goodhue and Ferguson, for a "South Church," so-called, at the corner of 85th Street and Park avenue, where it will offer a most suggestive and instructive contrast to the Jesuit church on the corner next below. To look at this front, with the singularly bold perpendicular east window, one would have no doubt that the church was "Anglican" of the straightest sect. But this assumption is upset by the disposition of the plan, from which it appears that the question is of a "congregational" church, which is to say of a church which is primarily an auditorium.

ter offers no doubt a more eligible motive than any mode of English Gothic.

Upon the whole, the strictly architectural exhibition of the League, interesting as it is, sheds little light on the question to which many students resort to it first of all for an annual answer. That is the question "Quo vadis." Whither, architecturally speaking, are we bound? "What main currents draw the years?" What deeper movement is there, if any, than that of the mere caprice of fashion. There is only the showing that we are at any rate bound away from the literal reproduction of French academic "concours" for practical American purposes. "For this relief, much thanks." M. S.



BALTIMORE UNION STATION FOR THE NORTHERN CENTRAL RAILWAY.

K. M. Murchison, Architect.

# **INTER- NATIONAL HOUSING CONGRESS**

The international housing congress of this year is to be held in Vienna in May. The interest in these gatherings, now become an annual event, is steadily increasing and is becoming more and more genuinely international. Invitations go to governments, local authorities, associations and individuals. The program for 1910 is divided into seven sections, and every one of these is of

interest to architects. For example, the themes include: The encouragement of building by societies or by private enterprise, the cottage versus the block, the cost and sanitary and aesthetic merits of various types of houses, by-laws that add to building cost, and the influence of new materials, housing inspection, the purchase of land by municipalities and the planning of suburbs. As on a previous occasion, the English delegation will go in a body, and will find in the congress an ultimate objective point for a tour of investigation.



ALUMNI HALL, UNIVERSITY OF GEORGIA.

Athens, Georgia.

Ludlow &amp; Peabody, Architects.



## ARCHI- TECTURAL ETHICS

Some readers of the *Architectural Record* may perhaps recall an article of last year, entitled "Architectural Ethics," which set forth a curious and egregious case of architectural plagiarism in Canada. An American architect had been engaged to do some work for a Canadian railroad at the Canadian capital. One day he found himself displaced, and his place taken by a firm of architects of the Dominion. But this firm had the indiscretion to publish their "design" and it startlingly appeared that it was simply his design the gist of which they had conveyed. It was rather a complicated problem, comprising a station hotel as well as a station, and dependent, for a negotiable solution, on the consent of the city government of Ottawa as well as of the government of the Dominion. And yet there was not the glimmering of a notion in the plans of the superseding Canadian architects which had not been in the plans of the superseded American architect. If bold "conveyancing" of one man's ideas by another be ever cognizable by a court of justice, this seemed to be a case in which it should take cognizance and jurisdiction. The original architect and his legal advisers took that view, and sued. The result of the suit is a vindication of Canadian justice and of the American architect, very much the reverse of a vindication of the Canadian conveyancers or of their employer. It appears from the report of an Ottawa paper, that the suit has been settled out of court, and that the injured American architect, Mr. Bradford L. Gilbert, has received a considerable sum, stated by our Ottawa contemporary at \$20,000, as damages for the injury which he had suffered from his Canadian colleagues and his Canadian employer. The damages may not have been "punitive" but they were exemplary. It seems safe to say that this particular client will not again play this particular trick.

## NEW SOLUTION OF THE SCHOOL PROBLEM

Everywhere schools are crowded. In the large cities they have perforce to be built up four, five and more stories, and the value of property is increasing so that the playgrounds are becoming more and more microscopic in extent. It is flattering and agreeable to note that it is an architect who has

offered a sensible way out of the dilemma. Dwight H. Perkins, of Chicago, calls our attention to the fact that it is not at all necessary to bring our schools to the children simply because we have always done so. In these days of rapid transit it would be just as easy and far saner to build our schools well out of town—educational villages with centralized management, splendid playgrounds, good air and the light of all outdoors. The cost would be infinitely less than that of city schools. Then provide school-cars for every district of the city to that educational centre. Instead of being at school at a certain hour it would merely be necessary for the scholars to be at a certain corner at a prescribed hour to get on their special car. The thing may seem visionary now, but it is logical, full of splendid possibilities and is what we will be doing before many years.

## TO USERS OF "SWEET'S" 1910

The *Architectural Record* believes that the importance of "SWEET'S," to the architectural profession, warrants the use of editorial space to announce certain inaccuracies which were not detected until the edition for 1910 had been distributed and which users of the book are urged to note for reference in their individual copies:

Users of "SWEET'S," 1910, should note in the Index of their copies the item "Ball Cocks," which, by some oversight, was omitted, and add under it the name of the Pittsburgh Gage and Supply Co., page 875. This firm should also appear under "Fittings."

Also the Kewanee Boiler Co., page 1002, should be entered under the title "Boilers, Low Pressure and Hot Water."

On page ix of the Index, the trade name of *Berger's Metal Lumber* should include page 356, where a full description of the product will be found.

The Sanitary Water-Still Co. of Jamaica, N. Y., are specialists in Water Purification, but by some error do not appear under that title. Their name should be entered there, with pages 922-23, also under Water Distilling Plants.

On page 1323, Samuel H. French & Co., the fifth paragraph should read "Buck White Lead, manufactured unchanged since 1844."

Also, under "Insulation, Cold Storage" should be entered the Union Fibre Co., pages 378-79.

### COMPREHEN- SIVE PLANS FOR TORONTO

The report which is issued by the Toronto Guild of Civic Art on the comprehensive improvement of Toronto is a very imposing publication—until one gets to the advertisements at

the back. Probably these financed the publication, but fortunately it has not often been necessary to finance reports of such character in this way, and the Toronto report was deserving of a better treatment. An admirable map in color shows the plans at a glance. They include a scheme for two great radial roads, stretching inland from the center of the city; a park system; a system of playgrounds; and a waterfront plan, though on the latter subject no definite recommendations are made—except for outlying driveways—pending the settlement of the railway problem. An important part of the Guild's membership is made up of architects, and the plans were prepared by its own committee. The report is illustrated with telling photographs and contains comparatively little text. But it adds Toronto to that long list of cities that are considering their development in a big way.

### SMALL ART GALLERIES

That an art gallery containing a valuable collection of American paintings should be within the grasp of the little New Jersey suburb of Montclair is a trifle less surprising than is

the apparent ease with which the community was thus enriched. Wm. T. Evans, whose residence is in Montclair, offered the town a collection of thirty-six paintings by leading American artists, as a nucleus for a permanent collection, if there would be erected a fireproof building to house them. Immediately Mrs. Henry Lang, also a resident of Montclair, has presented fifty thousand dollars to the town for the erection of such a building, to be museum as well as art gallery. The Municipal Art Society accepted both gifts, and Mr. Evans promptly increased his donation to fifty paintings. That other interesting gifts will follow may be prophesied with entire assurance. Significantly, an art news item that closely followed these was the dedication of the Morgan Memorial Building in Hartford—a structure given to the city by J. Pierpont Morgan, in memory of his father, Junius Spencer Morgan.

### PHILADELPHIA TO BE PLANNED

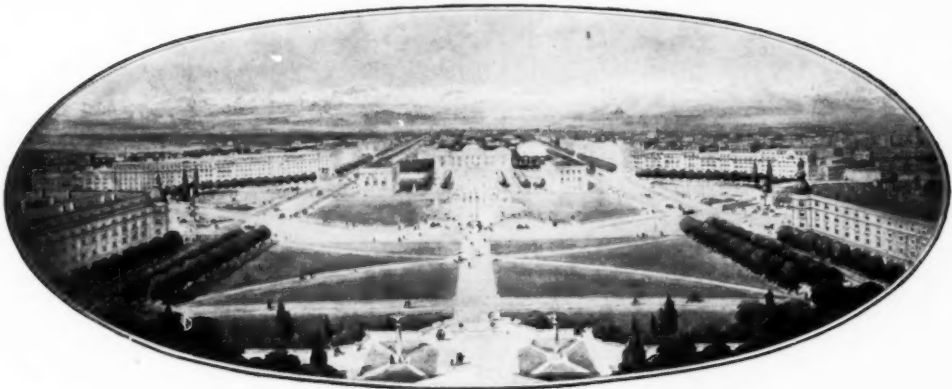
The twenty-first annual report of the City Parks Association of Philadelphia, which has just been issued, is devoted to a discussion of Philadelphia's "need of a comprehensive plan."

Separately inserted in it is a letter from the mayor which says: "I heartily approve the recommendation contained in the twenty-first annual report of The City Parks Association, that experts be employed to prepare a comprehensive plan for the development and growth of the city and its suburbs. This is a subject which has interested me continually and to which I have given especial attention during my administration. I am entirely familiar with the Washington plans, prepared by a commission composed in part of Messrs. Daniel H. Burnham of Chicago and Frederick Law Olmsted of Boston, and I commend the choice of these gentlemen to act with Director Stearns of the department of public works, chief engineer Webster of the bureau of surveys, and Messrs. Trumbauer, Zantzinger and Cret. . . . I will take pleasure in recommending to Councils an appropriation of the necessary funds for the commission." The report names \$50,000 as the sum which is contemplated. So Philadelphia takes up the work. The report, which is prepared with the skill that always characterizes the publications of this association, discusses the need of a comprehensive plan under the heads of transportation and housing, health, and urban competition—but very briefly under all these heads. It gives also citations from statements of the mayor and heads of departments in favor of a plan. The report is illustrated.

### OF HARMONY AGAIN

The Journal of the English Society of Architects prints a paper that was read by Raymond Unwin before the December meeting of the Society. Mr. Unwin's views on town-planning,

which was his subject, are now so well known that there is little need of summarizing this latest statement of them; but it is interesting to note that in it he more than once emphasizes, again, the need of co-operation among architects, in order that harmony of building may result. He said: "The passing of the Town Planning bill throws upon the architectural profession the duty to expand the scale of its thinking. We must begin to think in streets, in districts, and in whole



PROPOSED CIVIC CENTER FOR DENVER, COLORADO.

Biscoe &amp; Hewitt, Architects.

cities, and henceforth to regard our buildings not so much as isolated efforts, but as units in a large whole." Again, referring to the peasants' city of Rothenburg—"a unique example of unspoiled mediaeval picturesqueness, the character of which springs not from the possession of supremely beautiful buildings, but from the fact that in the whole of the town there is hardly one that does not show a simple comely beauty," he says: "I would like to emphasize the unity of effect. Almost every building in the town, including the Rathhaus and the Church, is roofed with the beautiful hand-made Rothenburg tile of a quiet brown color, here and there brightened with touches of brilliant red where the tile has cleansed itself, as such tiles will. The buildings are either built of stone, the prevailing tones of which are cream and light brown, or more frequently are plastered and treated with lime-wash of very similar tones. Bits of bright green and grey occur in the woodwork, the whole producing a unity of effect which is quite astonishing to anybody accustomed to the hopeless jumble of materials, colors, styles and forms which characterize the modern town or suburb. And yet there is no lack of variety."

#### DENVER APPROVES CIVIC CENTER

In events of the last few weeks the Denver civic center has become assured. A campaign that has lasted for nearly four years, and which has been stubbornly contested on both sides, has ended in a victory for the civic center project which, though conclusive, lacked any one dramatically triumphant moment. The center as planned is the most

elaborate which has yet been actually authorized by any city except Cleveland, and as there now is nothing to prevent the rapid execution of the plans Denver may realize, even before Cleveland, the dream of an urban architectural center. The plans, which were described in these columns in December, 1908, as under very serious consideration, were officially adopted shortly afterward by the park board. The opposition at once bestirred itself, and under the law owners of lots in the region affected were allowed to file protests. The assessment district was a very large one, for united with the civic center scheme were several other, minor, park projects. In all there were 72,255 lots, representing nearly a quarter of a million square feet, subject to assessment if the plans went through. To defeat it there were required the protests of only twenty-five per cent. of the property. As it was officially estimated that the land to be purchased for the civic center would cost a million and a half, and the other projects an additional million, a considerable amount of protest was filed at once by the element which can always be counted upon to be conservative. Trickery, falsehood and vilification, as it is claimed, were resorted to in effort to increase the number of protests, and this effort was by no means fruitless. For a time it looked as if the remonstrants would win; but as the matter became better understood, and the truth was told, protests began to be withdrawn. When at last the time limit had been reached, and the clerks were set to work, it was found that the legitimate standing protests fell much short of the necessary quarter. The property had acquiesced in the park board's plan. For

all the bickering and agitation, it was, as "Denver Municipal Facts" says, "the determined silence, the splendid spurning of the right to protest on the part of nearly four-fifths of the property owners in the East Denver Park district that won the day for a more beautiful Denver." The triumph is the more significant because the proposed plans, while appealing strongly to a cultivated aesthetic sense, lack that element of obvious utilitarianism which a taxpayer may see in a great building or in a pleasure ground. The appeal was to the pride of Denver, to the wish for a splendid and magnificent city.

#### OFFICIAL PLAN COMMISSION

The young new year has already witnessed not merely a remarkable growth of the city-planning movement, but—a fact of possibly greater significance, as marking the definite beginning of another chapter for the movement in this country—it has been marked by a pronounced official stamping of city planning. There have been sporadic examples for a long time. At the very end of December Mayor Busse sent to the City Council of Chicago the names of 350 citizens whom he officially appointed as a "Chicago Plan Commission." Of course, the Commission is very large—that is the Chicago way; but it may be observed that members of the City Council, presidents of the School Board, Park Boards, County Board, and the Sanitary District are ex-officio members of it. Until this time the Chicago Plan, paid for by private subscription, had as sponsor only a commercial organization. Any portion of it which the official commission approves will have a vastly improved chance of realization. Buffalo has presented to the Legislature a bill to authorize the creation of a commission, to consist of an architect, a civil engineer, an artist, three non-professional citizens to be appointed by the mayor, and, in ex-officio capacity, the mayor, the commissioner of public works, and the presidents of the aldermen, councilmen, and park board. It is to be called a municipal art commission; but the idea is not to have its powers simply those of suggestion or of the veto. It will have the planning of parks, streets, public buildings, esplanades and other public works, and its decisions will be binding on the city boards unless the boards reject them by unanimous vote. The mayor of Newark, N. J., has recommended that a commission be created for that city; and in Seattle a city ordinance

has just been prepared, with the backing of professional and commercial organizations, calling for submission to the people of a charter amendment providing for the appointment of a city plan commission. Meanwhile, the voluntary movement also extends. It is announced that citizens of Portland, Ore., have subscribed \$20,000, banded themselves into a Civic Improvement League, and engaged D. H. Burnham to make plans; and in Rochester, N. Y., a fund not as large as Portland's, but very considerable, has been privately subscribed, a civic improvement committee formed, and Arnold W. Brunner, Frederick Law Olmsted, and Bion J. Arnold retained to make plans—a local city planner having chosen an unsalaried office on the committee rather than membership on the Commission.

#### BOSTON CUSTOM HOUSE

With the beginning of the new year, the office furniture and the clerks and messengers that belong with it began to move out of the old Boston Custom House that the construction of the great tower might commence. A writer in the Boston "Transcript" has contributed two columns and a half on the significance of the transformation, beginning with the words: "Questions of the taste or justice of thus remodelling the building may be waived. It may or may not be good architecture. Enough that it represented perfectly the life of a Boston that is gone. Enough that the tower is going to be built, whether we like it or not." He gives some interesting facts about the structure, begun September 1st, 1837, and thus considered old. It was, he says, "a daring project, on 'made land,' surrounded in the construction by an apron, or dam, that rounded far enough away to intersect Commercial Street. Three thousand piles were driven for a foundation to be overlaid with a platform of granite eighteen inches thick, set in hydraulic cement. From this, far below the rumble of the streets, the vaults of the old Bastille spring their first gloomy arches." He likens them to the dungeons of Europe—a queer bit of mediaevalism in the heart of the modern city. "A staircase of solid stone, with a rusty iron rail, winds down" into the place from the street level, and the candle gutters in the hand of the guide. Avenues of thick, squat pillars, rough hewn of granite blocks, supporting low groined vaulting, narrow away into the gloom." On three sides there are winding tunnels, "walled in

solid blocks, angle beyond angle, link beyond link," finally ending in a long narrow cell. "Spider and insect wage endless war in these caverns. Nobody else disturbs their silence and their solitude." The thirty-two columns of the custom house porticos were the wonder of their time. "Each was hewn out of a solid block of granite and hauled from Quincy on specially constructed wains, drawn by forty yoke of oxen. . . . Writers indulged in solemn remarks on Phariol and the Pyramids. . . . The building, as it stands, contains the same number of cubic feet of stone as the Bunker Hill monument. Its interior is a group of stone caves of varying sizes, better lighted and ventilated than might be supposed. Its stairways go up as firmly as time to the Judgment day; it is roofed with granite slabs. Three years were required to lay its foundations, and seven more to complete the building. In some of the rooms marble window and door facings are monumental enough "to flank the entrance to a mausoleum." Yet the old Custom House will be but the base of the Custom House that is to be. When the new tower soars from the site of its present dome, it may be said that the ancient building has passed. The very modern tower protruding from the very old-fashioned pedestal will be as a symbol, the writer points out, "of what has been going on in Boston for the last sixty years—legible still in a few such places as the Custom House, the old Fitchburg Station; in certain architectural features of the Boston Theatre, and in streets of grave old houses in the West and North ends—the new engrafted upon the old, somewhat to the detriment of both; but none the less inevitable."

#### **METROPOLITAN IMPROVEMENTS FOR BOSTON**

The special joint board of railroad, harbor, park, and transit commissioners, which was appointed by the Massachusetts Legislature, to consider and recommend improvements for the Boston metropolitan district, has made a report. As might be expected, the suggestions are as little visionary as any recommendations for the future can be, and are absolutely concrete. This joint board is certainly a very interesting experiment. The board advises the state's development of its flats, and the building of piers, at South Boston; that the city convey to the state the flats in front of Wood Island Park and certain other flats and lands, and that yet other land and rights be secured, to the end that a car storage yard and traffic road may

be built; that the railroads be summoned to conference and required to report before September 1st regarding the electrification of freight and passenger service in the metropolitan district; that the opinion of the Supreme court be secured on the legality of taking by eminent domain a strip of property not only wide enough for a new thoroughfare, to connect the North and South stations, but of such width as to provide lots on either side of it large enough to be then sold for the erection of business buildings, so that the city might recoup the cost of the undertaking—as New York has often wished it could do, and as cities of Europe and South America frequently have done; and finally that a new traffic road to Lynn be opened. This is a constructive program which is large in extent and metropolitan in its grasp. Most interesting, too, is the fact that the post-election statement of Mayor-elect Fitzgerald, made about a week after this report appeared, and in the first flush of his victory, contained these statements: "It is my intention to work for the different planks in my platform. . . . There is as much reason for the electrification of the steam lines within ten miles of Boston as there is in electrifying railroad lines at a longer distance from the city of New York. . . . I shall not be afraid to go before the Legislature and advocate public improvements which, while costly, at the same time will be of vast benefit to the city. I believe in the law operative in England, which permits the public authorities to take land on all sides of street widenings or street improvements, and get the benefit of the public improvement. By this method these improvements have cost London and other cities little if any money." Under the new charter the mayor-elect of Boston has enormous powers.

#### **EXPOSITION IN BUENOS AIRES**

Though 1910 is an off year for expositions in the United States, the souls of those who like such things and who have the means to journey in pursuit of them, need not starve. In addition to the Exposition in Brussels and the town-planning exposition in Berlin, of which mention has been made here, there is to open on May 25th, in Buenos Aires, an International Exhibition of Fine Arts, commemorating the first centenary of the independence of the Argentine Republic. Architecture is properly included among the arts to be shown, and all the principal foreign governments have been asked to take part.



## ARCHITECTURAL TRIBULATIONS

There are those who asseverate that the A. I. A. is no longer a Society of learned men banded together for professional and soulful uplift, but has become just a plain, every day, labor-union, whose chiefest function is to fix a scale of charges, to scare the employers, to give the big guns a certain prestige and to see that all the members keep their license-tags on straight. An' e'en so, most of us need just such solicitous care—in the matter of competitions, for instance. It would perhaps be well if the A. I. A. could keep its members out of them by the vigorous use of the biggest of big sticks. Those competitions that are presided over by a professional adviser are bad enough and certainly full enough of surprises, but the others are, well, worse. Indeed, is there not something somewhere in the written ethics that forbids the brethren entering such? Nevertheless, those who decline to enter these unholy and uncountenanced competitions are amazingly few. The others scramble over each other to get into them and upon any terms or no terms. The result is that the whole blessed profession is held in very low esteem by the layman, the employer, who feels that he has but to crack his fingers for us to tear out each other's eyes in our efforts to give him our valuable services and at the rate of compensation prescribed by the A. I. A., but with a slight rebate of 1, 2, or 3% especially to him!

What suggests this particular thought is the report I have before me describing or reciting three "decisions" that have been made in the last couple of days in three rather important competitions. One was a big State job—no architectural advisor. The award was made to a friend of the Board absolutely regardless of plan, a pre-settled affair, and some of the competitors were blandly informed that the competition was called only because the laws directed that public work had to be awarded in competition. Two other architects did get a few hundred dollars in second and third prizes.

The next was a bank building, twenty-seven competitors, and not small fry either. No advisor, no prizes. Plans all received and very much admired, but competitors informed that the directors had changed their minds and instead of building merely a bank building they now proposed to go on up with a twelve storied office building. The competitors were "thanked" and told that

the Board would be very glad to have them also compete for this new project. The gentlemen have signified their intention of doing so, and five additional ones have begged for the privilege of getting in.

The third was an educational building—an architectural advisor, but no prizes and no fees. Award made apparently on merits, but the successful man being young and without experience, the trustees declined to give him the job. The man with the experience that they wanted and to whom they have given the job was not even a competitor, but it was suggested to the young man that he might sell his design to this "successful" architect, and it looks as though he would.

Oh, a most noble profession!

In at least some cities the regulations as to projections of buildings beyond certain lines have been made without due regard for the law in the matter. It all depends upon the charter of the city and whether it absolutely owns its streets or merely has the use of them. I had an interesting settlement of the matter in one city some time ago. A building extending from street to street, a narrow block. Ten feet more would have given us another entire tier of offices, and in twelve stories that would amount to something. A happy thought occurred to me to project a "bay" on each front, the entire width of the building, from the third story up. It was a pretty big projection, granted, but it was rather attractively designed and there was really nothing offending about it. But, of course, the city raised high jinks and the adjacent property owners joined in the suit, and there was a glorious row, injunctions and what not. The owner was game, however, put up unlimited bonds and went on with the building. The case was dragged through several courts, was tried over again and with all sorts of legal quibble, but the Supreme Court of the State finally decided that according to that city's charter the individual lots extended from centre of street to centre of street; that the use of the streets only was vested in the city with the necessary light, etc., for traffic, space for roadway, for water mains and so on. And their Honors further added that, provided the owner allowed sufficient light for traffic and placed no columns or other obstructions in the street and took care of all drains, etc., under it, he could build as far

out over it and under it as he saw fit, to the very centre of the street if desirable. And we did run our sub-cellar well out beyond the curb.

My recollection is that the New York and Chicago charters are not as is this one I refer to. In those two cities, anyway, the streets are deeded to and owned by the city and all the space above them and below them.

Our confrères, the marine architects, can certainly give us many pointers especially in utilitarian matters. A ship is just as beautiful as any building and yet there isn't a thing sacrificed to "design." They do not use the ancient lines of galleon-beak and royal-poop-deck and a forest of masts and spars, all useless and meaningless now, simply because their fathers' fathers built ships along those lines. The port-holes are put where they are needed; if a beam is required in a certain place, there it goes. It may be ornamented afterwards, but it isn't left off for some especial effect, nor is one put in that carries nothing, but simply to look as though it did.

And in the matter of fire-prevention, too, are they a long way ahead of us. They fully understand the philosophy of small units of space and the absolute enclosing of those spaces. Their bulkheads are perfect units and the doors enclosing them as invulnerable as a safe-door. On the other hand, we, or most of us, go sublimely on using "fire-of" construction but displaying but little intelligence in putting together the materials. We strive for the very largest possible units of space and kick at the building-regulations that curtail them; we do very many things about a building that are sensible and fire-retarding if not fire preventing, but generally neglect some one thing that pretty nearly vitiates all our other efforts. In one building, otherwise well handled, windows upon a narrow alley will be unprotected. That means that fire can get in that way and destroy all the contents and perhaps damage the structure itself 25% or more. In another possibly even the windows will be protected, but, glory be, there are two or three stairways or an elevator shaft open from basement to attic, a clean, clear runway for fire, something that will assure positive and rapid spread to every story and that in a jiffy. Think of it, in all this broad land of ours, with its something over thirteen million buildings, there are probably not over nine thousand of them even moderately fire-resisting, and of that number, again, I am sure there are not five in which

the architect has not done some fool thing or other, absolutely unnecessarily, that jeopardizes much if not all the contents of those buildings and their very structures to a very great extent. While upon the subject it may not be amiss to also note that in the past year of grace, 1909, at which period we were supposed to have some sense and to know something about the elimination of the fire-risk in buildings, 60% of the construction done was wooden frame!

Struggle as we may to "beautify" our cities (for in spite of Mr. Gilbert's objections, appropriately or not appropriately, that's the term that has been coined to describe the way certain things are to be done and "beautify," or "city beautiful" is what it is apt to remain) there is a certain element, stronger than we are, working just as hard to mar them, to utterly spoil them. My compliments to the speculative home-builders. They build houses by the mile, the most ugly, God-forsaken things that ever came over the pike, nightmares, blocks of them, cheaply built, shoddy in most part, but that sell upon the easy payment plan and sell like the proverbial hot cakes. In our national capital there are, at present, two or three such kind-hearted gentlemen furnishing houses for the multitude. In one district alone they have slapped up fourteen solid blocks of them within the past few months. Dismal barracks! You'd never dream you were in the Capital City of a great country, but rather at some army-post where countless troops had to be quartered in comparative comfort but sans "beauty." May Heaven forgive the man who gave these fellows the original design. The plan isn't half-bad, some comforts and certainly great economy of space, but oh, *that* exterior, repeated fourteen hundred and seventy-five times, and then again fourteen hundred more.

Of course, I understand that to get them within a certain figure every detail must be considered and no great diversity, as to size of windows, etc., can be indulged in, and, besides, if a twenty-five dollar design will do for the whole batch, what's the use of paying another twenty-five dollars for another design? The architects can't get anything out of these chaps, they have the right on their side and there seems to be nothing to prevent them from perpetrating these miles and miles of hideousness. But, it seems that the various chapters of the Institute, in sheer public spirit, could combine and induce these builders to adopt block designs that the Institute might get some of its members to work off. A de-

sign for a block as a unit, it might be with continuity, a feature or two using stock sizes of windows and all that, but infusing a bid of character, a composition of the whole. Such a block would certainly be infinitely less monotonous than the forty or fifty individual boxes nailed together. Have two such block designs, alternate them, and note the vast improvement there would be in a district. We must be a poor lot if, aided by the Boards of Trade and Chambers of Commerce, we could not get these builders to adopt such block designs that we could give them, *as a gift*.

Speaking of contractors calls to mind a discussion at the recent convention that was intended to be exceedingly serious but was one of the most humorous things I ever heard. It was solemnly stated and complainingly that some of the big building-companies were usurping the functions of the architect and were not kowtowing to him sufficiently low to impress him with the belief that he was still accepted as the great "I AM" on a building. It was further and just as dramatically suggested that as a punishment to these arrogant usurpers we let the contracts out separately to each trade, thus wiping out at one fell swoop the whole breed of general contractors. Bless you, children, but you were whistling to keep your courage up and must have felt a certain strength in numbers, besides, some of the Willard mixtures are famed for their (temporary) backbone stiffening propensities. In our big projects, in nine cases out of ten, the building companies or general contracting concerns finance the deal, have a large if not controlling interest and themselves dictate who the architects shall be. They tell them what is wanted, prepare a large part of the drawings and, to sum up, the architect has about as much authority there as the Vice-President has in the Senate. And to get right down to it, it is more through courtesy for the profession at large that the architect is there at all than it is through any sense of real need for him. It is only that sentiment that keeps him there. The building company could very well add a designer to its very large corps of engineers, specialists, and draftsmen. Who says that that will not be the mode of doing things before very long? And whose fault is it if the profession has lost some of its dignity and power? Talk of "usurpation." Poppycock!

Still on the subject of contractors we find one architectural journal lambasting another for printing cuts of buildings to which the

names of the builders are added to those of the architects. Fault is found with that and the simile is given of a great painting that would be signed by the artist and also carry the names of the canvas maker and the paint maker. I submit that that is not a fair parallel. If the painting were a colossal panorama reproduced from an artist's small sketch the names of the latter artist and of the reproducer of the big canvas could both well be upon the latter. A building is an architect's conception, granted, but the builder contributes in no small part to its success.

Important buildings, bridges and ships should conspicuously bear the names of their designers and of their makers, the opinions of some architectural journals to the contrary notwithstanding.

Upon every hand are we beset with learned and other treatises, comments, and tirades anent the heightened and increased cost of living. The middle man is pelted right merrily with all kinds of missiles. His is the fault and his the profit. The farmer is as poor as he used to be, and so on ad nauseam.

And so it is alleged of building. Perhaps it is that the whole thing is purely an imaginary, fictitious rise, one caused by the more plentiful supply of gold, reducing the intrinsic value of that standard and making it so that more of it has to be paid for any commodity purchased. But, in so far as building is concerned, we must recognize that the increased cost is not due, even in minor part, to any increase of profits to builders or material men, but almost exclusively to the increased cost of labor, labor in erecting the building and labor in producing the materials. Not only does every branch of that labor receive much higher pay than it did twenty or ten years ago, but its hours of work have been reduced, in some cases, as much as 30% and, more than that, the workmen do less work per hour than they did under the old regime. Both the quantity and the standard of excellence of the work have been reduced by the labor-unions to fit the ability of the moderately capable members. And there is absolutely no incentive for the very skillful ones to "throw" themselves. Indeed, by so doing they but injure their own standing in their unions. It's not for me to say whether all this is good or bad. That's a question for the socialists and economists to settle,—if they can agree—but what I do combat is the oft-repeated assertion that the high cost of building is blamable upon the *rapacity* of the builders.

F. W. F.